THE JOURNAL
of the
OKLAHOMA STATE MEDICAL ASSOCIATION

EDITORIALS

OF CURRENT INTEREST

In January, 1950, the first number of *American Practitioner and Digest of Treatment* appeared. This attractive publication published by J. B. Lippincott represents the amalgamation of the *American Practitioner* and *Digest of Treatment*, formerly published by this company.

It is gratifying to find that the first scientific article in Vol. 1, No. 1, is by our own Dr. Bert F. Keltz. He discusses diabetes, one of the most important chronic diseases now before the medical profession.

*JOURNAL EDITOR HONORED**

The unusual critical and literary ability of the Editor of the Journal, Dr. Lewis J. Moorman, as well as his interest in and knowledge of tuberculosis, has been recognized by the National Association for the Prevention of Tuberculosis of Great Britain. This organization has for the past five years published the Tuberculosis Index which is a bibliography of everything published about tuberculosis including abstracts of the current literature. Dr. Moorman has been asked to serve on the Editorial Board. A letter from the Secretary-General contains a sentence which describes the proposed relationship far better than can I.

"We should like very much to add to our Editorial Board the name of a distinguished American physician who would guide us in the handling of American papers and would constitute a link between us and your country."

His colleagues in Oklahoma know that he is well fitted for this task, but what is still better, Dr. Moorman has been uncompromising in his position of opposing compulsory health insurance and we can stand such a "link" between us and their country.—B.H.N.

*Publication of the above editorial is by request of the Editorial Board and without the knowledge or approval of the Editor.

THE COUNCIL MEETING

On December 18 while the great majority of the members of the State Medical Association were prescribing pills or pursuing pleasure, the members of the Council were struggling with the Association's routine business including some very grave problems. The latter coming out of crazy situations which have resulted from the socio-economic quirks of a welfare-state psychology which has a cockeyed world rocking dangerously on the shoulders of a distraught atlas.

The deliberate analytical approach to all problems, and the sincerity, patience, poise, tolerance and judgment employed command the respect and gratitude of every member of the State Association.

Such deliberations not only assure wise administration for the State Asociation but they put our Association in line for national recognition. Already the splendid reports of our delegates to the A.M.A. reflect our influence in national affairs.

Our hats are off to the officers of the Oklahoma State Medical Association and its faithful workers including all members of the staff at 210 Plaza Court.

While our Councilors and workers may not be world famous "Ancients of the College", they dispense

". . . God's own Common Sense
Which is more than knowledge!"

CONGRATULATIONS NEW ENGLAND JOURNAL OF MEDICINE

In the January 5 issues of the Journal under the department of "Medical Progress," there is a discussion of toxicology by Joseph T. Walker who calls attention to the fact that the "Medical Progress" reports were "first instituted in the *Boston Medical and Surgical Journal*, the forerunner of the *New England Journal* exactly 75 years ago and that the first report was on toxicology. This is an enviable record — a tradition of which

the Journal may well be proud.

The author discusses the historical background of his subject detailing its growing importance with the march of progress, explains its application under modern conditions and calls attention to advances in analytic methods.

This is a good example of medicine's evolutionary processes when it is permitted to work out its own destiny.

PREMATURE PUBLICITY

The over optimistic newspaper publicity about antihistaminic preparations for the common cold is most unfortunate for the public. Since medical science has not yet discovered the cause of colds, it is remarkable that manufacturers and distributors should have the courage to go over their puzzled heads with glowing claims promising prevention and cure with drugs the family physician has been using for several years with a full knowledge of their dangers and limitations under an obligation imposed by knowledge of the drug's action to personalize prescribing.

The present craze about the new cold remedy is another good example of how even well guarded reporting on things medical finds its way into the lay press and may lead ambitious purveyors of therapeutic agents to overshoot the mark.

In the January 14, 1950, British Medical Journal there is a report of two deaths from antihistaminics in Great Britain and two in France. While these deaths are in children who died from accidental overdoses, the death reports emphasize the poisonous potentiality of these preparations and are not in keeping with the December, '49 Readers Digest assurance of "the complete safety of these drugs". Neither does the relief afforded by the administration of the drugs support the bouyant "step ahead in the comfort of mankind". On the whole the glaring December publicity constitutes a questionable Christmas present to a gullible public for which an ambitious Santa Claus may some day meet a guilty conscience face to face.

It is to be feared that like the Treasure Island pirates they had their eyes on the golden quid rather than the Coryza Kid. Money may not be the root of all evil but it foists upon the public the poisonous products of many a would be Midas.

Antihistaminics should be dispensed only upon a physician's prescription and not upon an ambitious manufacturer's pharmaceutical presumption.

THE HEALTH OF THE NATION

This morning the writer ran across the following notes penciled on prescription blanks approximately 12 years ago. They were inspired by Esther Everett Lape's article in a popular magazine, as she thought, making it obvious to the people that "State Medicine" must come quickly in order to save the Nation. Thanks to free enterprise and the "crutch of time" we have hobbled along and helped the nation to attain a higher level of health than Esther could imagine. She made light of the fact that high-school children throughout the country had been debating State Medicine "as if it were still a question to be answered". It is to be hoped that she has lived to see that her cocksure opinion that regimented medicine must come quickly was not the answer.

About this time J. Hamilton Lewis put "Roosevelt's plan up to convention delegates" — meaning A.M.A. House of Delegates at Atlantic City. As the President's message bearer he said, "I beseech you to pause and realize there is nothing whatever that the mind can conceive, that is not now undergoing some form of encroachment. Doctors, the question for you is not whether you like, or whether you don't . . . it would be absurd to resist." The President and his prophet, if not utterly wrong, were at least premature.

It proved to be wild "gobbledegook" which followed them to their graves and left them with cleaner hands than they would have had if their plan had succeeded.

Let us hope the same may be said of the present corresponding pair plugging for control of the people's medicine and their physicians.

At a strategic moment in politics Oscar W. Ewing employed the pages of a popular magazine for propaganda similar to that championed by Esther Lape with a more personal objective but it is safe to believe that in 12 years from now both he and his cause will be lost in oblivion.

It is not encouraging that, in spite of the fact that the Social Security Act originlly considered compulsory health insurance as one of its coveted prizes, medicine has pursued its independent way in the service of an increasingly dependent people. They have less liberty but they live longer because medicine is still free.

WHEN REWARD IS MUTUAL

Considering the present agitation concerning various proposals for medical care including the threat of compulsion it may be well to re-appraise the vaunted patient-physician relationship. Already there is evidence that it has suffered a severe strain and that physicians are largely to blame. Too often at social gatherings during the cocktail hour or across the dinner table the sad truth comes out even where medical ears are focused upon the talk. It's unfortunate that such unsavory faggots must be added to the fire of social converse. There must be good reason for this modern tendency to criticize the doctor. It is time all physicians should search their hearts.

Patients should stand as the physician's living testimonials. The following from a grateful patient to her physician of approximately two decades past is representative of the ideal spirit of mutual service made possible through the old time patient-physician relationship.

"It is a Doctor's duty to give of his best professional skill — but when a Doctor heals the soul as well as the body and gives to his patient a loved and trusted friend as well, then that patient has gained far more than she lost in her illness."

Here is hope for the Grievance Committee — but not without a crusade for a return to the humanities in medicine.

A 10 BILLION DOLLAR QUESTION

According to current reports, Oscar R. Ewing now admits a probable cost of four and one-half billion dollars for his proposed Compulsory Health Insurance program. If his purposes were to be fully achieved and if bureaucrats were sensitive to costs, soon he would have a 10 billion dollar headache. He has not admitted the obvious connection between the F.B.I. investigation of state and county medical associations and his plans for nationalization of medicine. Be it far from any spokesman of organized medicine to embarrass such a militant health ambassador even though he is utterly without portfolio.

But what goes on here warrants a statement with reference to organized medicine in Oklahoma. Truly its origin, purposes and performance fall in the field of public weal and through the members of the medical profession the people should be informed with reference to the government's plan to foist upon them a costly nationalized medical service which will be relatively cold and impersonal.

The Oklahoma State Medical Association was organized many years ago. The organization was effected by busy physicians who could have pursued their personal interests and the welfare of their patients without the aid of organized effort. But they realized that medicine has a mission to perform; an obligation to the people as well as to the private patient; they could not do their full duty without considering public health as well as private health. They were wise enough to know that they could not adequately meet these broad obligations without high professional standards and that they could not make sure of such standards without organization.

So the State Medical Association was organized for the establishment, maintenance, integration and application of humanitarian ideals and purposes. Out of this organization has come many committees, boards and conferences all striving for better health, increased physical competency and greater happiness for the people of Oklahoma. This great voluntary movement in the field of medicine has spent much time and money in an effort to give the people of Oklahoma the best possible private and public health service and indirectly to give to the Union a vigorous young state physically fit.

As a reward for all this, the federal government through the Department of Justice without the ethics of notice or warning, ordered the F.B.I. to investigate the State Association activities. A great cause has been rebuffed and hampered; a coterie of loyal workers have been surprised and hurt just when they thought the State Association was approaching a crowning success in its voluntary career as a welfare agency.

But in our innocence there is hope that the Department may find so little evidence of conflict with the antitrust laws that we may never be brought to trial. Regardless of what happens it is difficult to see how this move can help the cause of Compulsory Health Insurance.

O.S.M.A.
ANNUAL MEETING DATES
CHANGED

TO

JUNE 5 - 6 - 7, 1950

HOUSE OF DELEGATES JUNE 4

SCIENTIFIC ARTICLES

HEART DISEASE*

A Study of the Etiology and the Causes of Death of Patients with Heart Disease at University Hospitals Over a Ten-Year Period (1936-1946)

W. T. McCOLLUM, M.D.

OKLAHOMA CITY, OKLAHOMA

This study of heart disease at University Hospitals was interesting because of our desire to know which types of heart disease were common to this locality.

There were 267 deaths, directly due to heart disease, at University Hospitals over the 10 year period from July 1, 1936 to June 30, 1946. (Table I.) Fifteen hundred and eighty-three autopsies were reviewed. During this time there were 64,952 admissions, 59,187 whites and 5,765 colored, and 3,696 deaths, 3,182 whites and 514 colored, or a mortality rate of 53.76/1000 whites and 89.15/1000 colored. The 1,583 autopsies were composed of 1,327 whites and 256 colored. These autopsies represented 41.81 per cent of the total deaths. The ratio of white to colored admissions was 10.26:1; the ratio of white to colored deaths was 6.19:1; the ratio of white to colored autopsies was 5.18:1; and the ratio of white to colored cardiac deaths was 4.6:1 (219 white and 48 colored.) Heart disease then represented the direct cause of death in 16.5 per cent of the white patients and 18.7 per cent of the colored patients who came to autopsy at these hospitals for this 10 year period. There were other patients in which heart disease was a definite contributing factor in the cause of death, but these were not included. For example, a patient with "congestive heart failure" requiring surgical intervention for another cause, but in spite of the usual care and treatment, the patient expired fololwing this procedure.

The etiological classifications of the two hundred and sixty-seven cases who died from heart disease was studied. (Table II.)

HYPERTENSIVE HEART DISEASE

This group comprised the largest number of patients, 100 of the total, or 37.5 per cent. The age, race, and sex distribution was studied and the causes of death were tabulated. (Table III. a, b, c). One case was a dissecting aneurysm and another a ruptured aorta (a small slit with hemorrhage into the pericardial cavity). In the remainder, the exact cause could not be ascertained. Some authors have referred to this as "visceral failure". In the "malignant group"—

6 died from uremia
2 from "congestive heart failure"
1 from a ruptured "slit" in the aorta
2 from cerebrovascular accidents

One of these latter had repeated cerebrovascular accidents.

Pathology: As the pathology in this group was of the usual findings, details need not be involved. The average weight of 92 hearts, in which the weight was given, was 577 G., with a minimum of 275 Gm. and a maximum of 1040 Gm. The average weight of the hearts in the patients falling in the "malignant group" was 612 Gm.

ARTERIOSCLEROTIC CORONARY HEART DISEASE

This group included the second largest number of patients, with 74 falling into this category, or 27.7 per cent of the total group. The age, sex, and race distribution was studied and the causes of death listed. (Table IV. a, b, c). The youngest patient, 39 years of age, died from myocardial infarction, and the oldest, 95 years of age, died from rupture of dissecting aneurysm into the peritoneal cavity.

Pathology: Twenty-eight died from acute myocardial infarction and 30 died because of chronic "congestive heart failure". Of the acute myocardial infarctions, 15 involved the left anterior descending branch, one the left coronary proximal to the bifurcation, four the right circumflex branch, one the left circumflex branch, and in seven cases

*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 18, 1949.

the available data was not adequate for localization.

Of the 64 heart weights recorded, the average was 447 Gm. with a minimum of 220 Gm. and a maximum of 825 Gm. This latter case was complicated by marked coronary sclerosis, hyperplasia of the prostate, suppurative cystitis and pyelonephritis, and secondary hypertension. The cause of death was coronary thrombosis with myocardial infarction.

No doubt, complications that were factors in the somewhat higher average heart weight were, four cases of severe calcific aortic valvulitis, seven cases with old healed myocardial infarctions, and four cases with varying degrees of pyelonephritis and secondary hypertension.

There were actually nine cases of pulmonary embolism. However, three of these were from mural thrombi associated with myocardial infarction, and five were due to phlebothrombosis of leg veins in patients with "congestive heart failure". In the remaining patient the site was not determined but probably originated in the leg or pelvic veins.

RHEUMATIC HEART DISEASE

This group included all patients of rheumatic heart disease, such as those dying from "congestive heart failure," bacterial endocarditis, etc. This group constituted 17.2 per cent of the cases studied in this series. Age, sex, and race tabulations were made. Causes of death were listed. (Table V. a, b, c). The youngest patient was two and one-half years of age and the oldest was 59 years of age.

Pathology: There were 16 cases of chronic, inactive rheumatic heart disease and seven cases of chronic rheumatic heart disease that died during acute exacerbation. Subacute bacterial endocarditis. Four deaths were due to the active phase of pancarditis. Six patients were of undetermined activity or inactivity, but would probably fall in the chronic inactive group.

In regard to the involvement of the valves of the cases of chronic, inactive rheumatic heart disease, there were:

10 cases in which the mitral valve alone was involved
9 cases with mitral and aortic involvement
2 cases with mitral, aortic and tricuspid involvement
1 case with mitral, aortic, tricuspid and pulmonic involvement
1 case with mitral and tricuspid involvement

It was interesting to note that of the eight deaths due to subacute bacterial endocarditis, two were in the acute rheumatic phase and the vegetations involved MacCallum's patch, as well as the valves. It was not clearly stated what valvular involvement was present in six cases.

From the above group of 23 patients, there were 10 (43.6 per cent) in which the mitral valve was the only valve involved. The remaining 13 had multiple valvular involvement.

The average weight of 30 hearts was 552 Gm., with the maximum being 1175 Gm., due to severe aortic regurgitation. The pulmonary emboli were in patients with auricular fibrillation and mural thrombi in the right atrium. There were six cases of pulmonary embolism apparently due to "congestive heart failure." Phlebothrombosis was not diagnosed as a complication of the heart failure. In the two cases of cerebral embolism the diagnosis was made clinically. The brain was not examined postmortem.

CONGENITAL HEART DISEASE

There were 15 patients with congenital heart disease ranging from one day to 15 years of age; 12 were white and three were colored (nine white males, three white females, and three colored males). There were no colored females. There was little of note here other than the variety of congenital abnormalities and that one case may fall into the category of von Gierke's Disease. The majority were patent ductus arteriosus, coarctation of the aorta and interventricular septal defect with or without associated lesions, usually patent ductus arteriosus. There was one patient with Tetralogy of Fallot.

LUETIC HEART DISEASE

Luetic heart disease was diagnosed in 11 patients: three were 30-39 years of age, three were 40-49 years of age, three were 50-59 years of age, and two were 60-69 years of age. There were seven white males, two white females, and two colored females. There were no colored males, which was very unusual.

Pathology: All of these cases exhibited the characteristic aortitis. There were three saccular and three fusiform aneurysms. Complete occlusion of both coronary ostia was present in one patient and in two others there were old myocardial infarctions.

Of 11 patients, the heart weight was recorded in eight cases, the average weight being 696 Gm. with a minimum of 400 Gm. and a maximum of 1175 Gm., a case of severe aortic regurgitation.

Causes of Death: Eight died from "congestive heart failure"; one from pulmonary embolism; one from a self-inflicted gunshot wound of the head (this patient made the statement that due to his prolonged illness from heart disease and the inability to be treated adequately, he would, and did commit suicide), and the remaining patient died from surgical rupture of an aneurysm.

PERICARDITIS

There was one case of calcified paricarditis in a 34 year old white male and another of fibrous, constrictive pericarditis in a 30 year old colored male. Both were due to tuberculosis and both caused death fr chronic cardiac tamponade.

CHRONIC COR PULMONALE

There were six patients in this grou ranging from 14 months to 55 years of age. Two were white females, three were white males, and one was a colored male. These were all due to chronic asthma with or without extensive bronchiectasis, tuberculosis or lung abscesses.

"PRIMARY" AYERZA'S DISEASE

There were three patients with "primary" Ayerza's Disease, all in the white race, two white females and one white male, ranging from 40 to 51 years of age. In two of these, there was, in addition, an essential hypertension, though the patients died from unproportioned "right heart failure" with cyanosis, severe unproportional dyspnea, etc., the hearts being of the pulmonary configuration, exhibiting marked hypertrophy of the right ventricle.

THYROTOXIC HEART DISEASE

Two patients died of thyrotoxic heart disease. One was a 31 year old colored male, and the other a 60 year old white female. From reviewing the records of these patients, there can be little doubt that this was the cause of death. The female was in auricular fibrillation and died from an embolus from a mural thrombus in the left atria that occluded the popliteal artery with gangrene; the other from cerebrovascular accident, the result of embolism. This colored male could not be controlled. He was in severe "failure", he would not stay in bed, signed out of the hospital, etc., and returned from a second such escapade with a cerebrovascular accident.

POST-DIPHTHERITIC HEART DISEASE

There was one case of post-diphtheritic myocardial "failure" in a six-year old white female who was hospitalized in Arkansas and was taken out of the hospital against medical advice and moved to Oklahoma City. In the interval the "failure" developed and remained progressive until death. There was an interval of several weeks between hospitalization in Arkansas and at University Hospitals. This patient received inadequate treatment.

AIR EMBOLISM

There was one death in a 13 year old white male with a fractured humerus and lacerated veins. The right side of the heart and pulmonary arteries were found distended with air from aspiration of the air from the lacerated veins.

UNDETERMINED

There were six cases in which the available data was not sufficient to determine the etiology. There were two white males, two white females, and two colored females. In each instance, the death occurred in patients with chronic "congestive heart failure". These were interesting cases for speculation. Such physiological accidents as ventricular fibrillation, asystole, and other arrhythmias of transient nature surely were instrumental in some of the deaths. Not infrequently, patients have been seen who were doing well but who die suddenly. Post mortem examination frequently does not help in determining the exact mechanism of these deaths.

	TOTAL	WHITE	COLORED	RATIO (WHITE:COLORED)
ADMISSIONS	64,952	59,187	5,765	10.26:1
DEATHS	3,690	3,182	514	6.19:1
MORTALITY RATE	56.9	53.76	89.15	1:1.66
AUTOPSIES	1,583	1,327	256	5.18:1
CARDIAC DEATHS	387	319	68	4.6:1
PER CENT OF DEATHS DUE TO CARDIAC DISEASE	10.8	10.5	13.7	1:1.1

TABLE I. UNIVERSITY HOSPITAL STATISTICS

100 cases of hypertensive heart disease	37.5 %
74 cases of arteriosclerotic coronary heart disease	27.7 %
46 cases of rheumatic heart disease	17.2 %
15 cases of congenital heart disease	5.6 %
11 cases of luetic heart disease	4.1 %
6 cases of cor pulmonale due to chronic lung disease	
3 cases of "primary" Ayerza's Disease	
2 cases of pericarditis	
2 cases of thyrotoxic heart disease	7.9 % of the series
1 case of post-diphtheritic myocardial failure	
1 case of air embolism in the heart and pulmonary arteries	
6 cases of undetermined etiology	

TABLE II. SYNOPSIS CLASSIFICATION OF 267 CARDIAC DEATHS

RACE AND SEX		
	WHITE	COLORED
TOTAL	71(64)	29(5)
MALE	45(5)	19(2)
FEMALE	26(14)	10(3)
TOTAL	100(114)	

(a) "Malignant Phase"

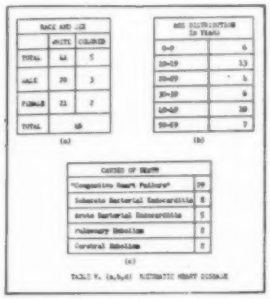
AGE DISTRIBUTION IN YEARS	
20-29	1(1)
30-39	14(5)
40-49	29(4)
50-59	19(3)
60-69	14(3)
70-over	12(3)

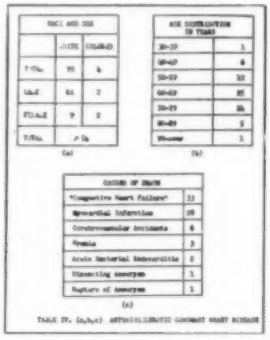
(b)

CAUSES OF DEATH	
"Congestive Heart Failure"	68
Myocardial Infarction	19
Cerebrovascular Accidents	18
Uremia (Renal Failure)	17
Miscellaneous	6

(c)

TABLE III. (a,b,c) HYPERTENSIVE HEART DISEASE





	Hyper-tensive	Arterio-sclerotic	Total
Left Anterior Descending Branch	10	15	25
Right Circumflex Branch	1	4	5
Left Circumflex Branch	0	1	1
Left, Proximal to Bifurcation	1	1	2
Left Marginal and Anterior Descending Branches	1	0	1
Left Anterior Descending and Terminal Portion of Right Circumflex	1	0	1
Undetermined at Autopsy	5/19	7/26	12/45

TABLE VI. SITES OF THROMBOSIS OF THE CORONARY ARTERIES WITH MYOCARDIAL INFARCTION

NEOPLASMS

Primary neoplasms of the heart were not found in this series. There were 11 patients in which the heart, pericardium, or both were involved by metastasis or invasion. One of particular note was a patient with multiple malignancies ("generalized" adenocarcinoma of the gastro-intestinal tract) that involved the heart and pericardium by metastasis.

MYOCARDIAL INFARCTION

Myocardial infarction deserved special consideration since there were 47 cases in this group; 28 non-hypertensive and 19 hypertensive. The sites of involvement of the coronary arteries by thrombosis were studied. (Table VI.) Saphir, et al[1] found both coronary arteries involved by "coronary sclerosis" but the most severe lesions were found in the anterior descending branch.

The race and sex distribution was of interest. (Table VII.) The ratio of males to females was 40:7 (5.7:1). There were seven females who died from myocardial infarction; five in the hypertensive group and two were non-hypertensive. This agreed with Bland and White[2] who reported that 85 per cent of the myocardial infarctions occurred in men. Myocardial infarction was the cause of death in six colored patients (five males and one female) or 12.7 per cent of the group. Five were in the hypertensive group and two were in the arteriosclerotic group.

DISCUSSION

This series was compared with that of Clawson[3]. (Table VIII.) There was a significant difference in this series and in that of Clawson's[3] in the hypertensive and arteriosclerotic groups. This might be explained in part on the difficulty in recognizing hypertensive changes postmortem. Arteriolonephrosclerosis need not be present postmortem. Patients with hypertension who develop "congestive heart failure" frequently have a lowering of the blood pressure. When objective pathologic changes of hypertension were not present and the blood pressure was recorded as normal, these patients were placed in the arteriosclerotic coronary group, particularly when cardiac hypertrophy seemed explainable on the basis of aortic valvulitis, etc. When these two groups were added together, the two series were quite comparable. Hypertension, secondary to primary renal disease, ie, chronic glomerulonephritis, was not included in this report.

In the hypertensive group, there was little of note since the age distribution and the various causes of death were in keeping with those reported by other authors.[4,5] There was a greater incidence of colored patients who died of hypertensive heart disease. The incidence of the "malignant phase" of hypertension was two times greater in the colored as compared with white patients.

The causes of death in arteriosclerotic coronary heart disease in this series were not in keeping with those reported by White[4] or Clawson[3]. Factors which increased

	CLAWSON	THIS SERIES
HYPERTENSION	55.5) 61.7	37.5) 65.2
ARTERIOSCLEROTIC	6.2)	27.7)
RHEUMATIC	18.6	17.2
BACTERIAL ENDOCARDITIS	11.0	*
LUETIC	7.0	4.1
CONGENITAL		5.6
MISCELLANEOUS	1.8	7.9

* included in Rheumatic (except 2 cases in Arteriosclerotic)

TABLE VIII.

RACE AND SEX				
	HYPERTENSIVE		ARTERIOSCLEROTIC	
	WHITE	COLORED	WHITE	COLORED
TOTAL	15	4	26	2
MALE	11	3	24	2
FEMALE	4	1	2	0
TOTAL	19		28	
GRAND TOTAL	47			

TABLE VII. MYOCARDIAL INFARCTION

the "congestive heart failure" group as a cause of death may have been calcific aortic valvulitis, old healed myocardial infarctions, and pyelonephritis with secondary hypertension. Bartels and Smith[6] found that myocardial infarction increased the heart weight 132 Gms. White[4] agreed with their findings. It was interesting to note that acute bacterial endocarditis was a cause of death in two of the patients with the arteriosclerotic coronary heart disease.

In the group with rheumatic heart disease, two-thirds of the patients died as a result of "congestive heart failure" and slightly less than one-third from acute or subacute bacterial endocarditis. White and Jones[7] found rheumatic heart disease accounted for 29.5 per cent of the total series in their clinical study. In those reported by Clawson[3], he found an incidence of 29.6 per cent when all cases of bacterial endocarditis were added to the rheumatic group. The underlying etiology of most of these cases would have been rheumatic.

Congenital heart disease was not presented in detail in this paper. However, these cases represented patients dying as the result of congenital malformations of the heart and did not include cardiac anomalies that were compatible with life and who died from other causes. As mentioned previously luetic heart disease was not considered significant in this series. The miscellaneous group was too small to be of any statistical significance but was included for completeness. It was extremely interesting that two of the three cases of "primary" Ayerza's Disease were also complicated by significant systemic essential hypertension.

SUMMARY

1. During this 10 year period 267 deaths at University Hospitals were directly due to heart disease.

2. Two hundred and nineteen of the patients were white and 48 were colored.

3. Heart disease accounted for 16.8 per cent of all deaths occurring at University Hospitals.

4. Hypertensive and arteriosclerotic coronary heart disease caused 65.2 per cent of all deaths from heart disease.

5. Rheumatic heart disease, as a cause of death, was somewhat less common at University Hospitals than in other reported series.

6. Myocardial infarction caused death in 47 patients; 41 white and six colored patients.

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"HYGEIA" NAME CHANGED

With the March, 1950 issue "Hygeia", the health magazine of the A.M.A. written for the layman, will become known as "Today's Health". The name was changed, the A.M.A. announces, to be more descriptive of the aims and contents of the magazine. W. W. Bauer, M.D., Director of the A.M.A. Bureau of Health Education, is editor of the magazine, succeeding Morris Fishbein, M.D.

PLAN TO ATTEND

Your O.S.M.A. Annual Meeting

June 5-7 Municipal Auditorium, Oklahoma City

TREATMENT OF CONGESTIVE HEART FAILURE*

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Starr[1] defines congestive heart failure as a physiologic process gone wrong. The venous pressure is raised and the veins stand out and become tense. The pathologic physiology of congestive heart failure has been the cause of much speculation and clinical and laboratory study. It is important to know what happens and why in order for us to treat congestive heart failure intelligently.

The chief controversy at present is whether there is backward failure or forward failure. Backward failure is considered more important by some in the production of congestive failure. In backward failure the veins are distended by blood being dammed back by a weakened heart which is unable to empty itself with each systole. Edema, effusions, and ascites are said to be produced by an increase in hydrostatic pressure in the venules and capillaries.

Forward failure is due to a decrease in the amount of blood the heart is able to force forward into the systemic circulation. This reduction in blood flow decreases the plasma flow to the kidneys and causes a marked reduction in the glomerular filtration rate of the kidneys. The result is a retention of sodium in the body which in turn leads to a retention of body fluids and an increase in blood volume. This series of events produces an increase in the venous pressure which helps increase the edema.

Stead[2] believes that both backward and forward failure are present. He has shown that cardiac output which is normally between 2.3 liters and 4.1 liters per square m of body surface, in the majority of cases decreases. This is especially true if the output is measured with the patient doing some exercise and not at bed rest. Many injured hearts will have a normal output when at rest but show a decided decrease from normal on exercise. Some injured hearts continue to have a normal output and some in congestive failure will have an increase in cardiac output.

Starr suggests the train of events leading to congestive failure as follows: 1. Heart disease; 2. Diminished circulation to: a. Kidney, b. Bone marrow, c. Other organs; 3. Retention of sodium and water; 4. Increase blood volume; 5. Venous congestion; 6. Stimulation of heart from increased venous pressure; 7. Further heart damage.

Merrill[3] suggests that in advanced failure with exaggerated sodium retention the cause may be due to stimulation of the adrenals and possibly the presence of an anti-diuretic factor from the pars intermedia of the pituitary.

It is of interest that symptoms of congestive failure sometimes result in cases without heart disease. On the other hand we frequently see severe heart disease, such as coronary occlusion with decreased cardiac output and no congestive failure and marked venous pressure as seen after ligation of the vena cava or in cases of adhesive pericarditis often do not show edema.

Keeping this discussion of the mechanism of congestive failure in mind how best are these cases treated. Gold[4] at the San Francisco meeting of the American College of Physicians and again more recently in the Volume III of the Cornell Conferences on Therapy emphasized six important steps in the management of cases of congestive failure, rest, low sodium intake, adequate fluids, digitalization, mercurial diuretics, and daily weights. We have followed his recommendations for the past year and have found it the most satisfactory method to date in our hands. It is not necessary to wait for the patients to become so badly decompensated that they have to be hospitalized to start them on the program.

The rest prescribed for the patients may be either in bed or if more comfortable

*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 19, 1949.

sitting in a chair and is continued until they become compensated.They are then instructed to try to keep their physical exertion and mental worry short of the point of becoming short of breath or fatigued. Daily rest periods may be continued as indicated.

A low sodium diet should contain from 1.0 to 1.5 grams in 24 hours. One to one and a half quarts of milk every 24 hours for 1-2 weeks as indicated is the easiest and most reliable method in the hospital or home to insure a low salt intake. As the patient improves a more liberal diet may be allowed. This diet should contain no added sodium chloride. As compensation improves salt may be added providing weight can be maintained as will be discussed in a moment. Do not give medicines containing sodium, such as sodium salycilate or sodium bicarbonate when trying to rid patients of edema. One word of caution should be inserted. A few patients may lose sodium through their kidneys faster than the average. If symptoms of too great sodium loss arise, vigorous action should be instituted to correct this loss.

Gold recommends two liters of water every 24 hours as adequate fluid. This amount can easily be handled by the kidneys and insures enough fluid to carry off the end products of metabolism that the body rids itself of through the kidneys.

We have used the digitoxin preparation digitaline nativelle for the past three years and have found it highly satisfactory. We have followed Gold's recommended dose of 1.2 mg given at one dose and then a maintenance dose of .2 mg digitaline nativelle daily. The digitalizing and maintenance doses will work in the majority of cases. A few will require more and a few will develop signs and symptoms of digitalis intoxication from this size dose. The signs and symptoms are the same as result from intopication by any of the digitalis preparations but come on more rapidly because digitoxin is 100 per cent absorbed by the intestinal mucosa and will produce its effect two to four hours after ingestion. The maintenance dose can be regulated as we follow the patient.

Just as important as low salt and digitalis is the use of the mercurial diuretics and weighing the patient at the beginning of the treatment and daily. Gold's recommended dose of one-half cc to 1 cc of mercuhydrin intramuscularly once a day has been followed. Mercuhydrin and salyrgan may be given intravenously but the intramuscular route is probably the safer. It is usually possible to get a loss of two to three lbs. daily by giving the diuretic in small doses each day. Small doses are not as dangerous and a moderate diuresis does not make the patient weak. The daily weight is very important in order to follow the patient's course. As long as he loses two to three lbs. daily you know he is improving or will improve. It is much more accurate than keeping track of the patient's fluid output. If weight is not lost on this program, one-half cc to one cc of mercuhydrin may be given twice a day or two cc may be tried.

These injections are kept at daily intervals until the patient's weight levels off. The injections are then spaced out to every other day or even farther apart. The daily weighing should be continued. An attempt should be made to give an injection of the mercurial diuretic the day before there is a gain in weight. For example, if the patient gains two pounds on the fifth day he should receive his injection on the fourth day. This should be done for several weeks and then the patient can try a day or two longer depending on whether or not he picks up two to three pounds in 24 hours when weighed at the same time of day.

If necessary patients or one of their relatives can be taught to give these injections just as they are taught to give insulin. They soon understand they are not supposed to gain weight suddenly and can be impressed with this fact by telling them that a gain of a few lbs. in 24 hrs. usually means their hearts are not working as efficiently as they should.

It is well to know that patients can be dehydrated too much with mercurial diuretics. Too much sodium or too much calcium can be forced out of the body with the resulting symptoms of too little sodium and tetany from losing too much calcium. Patients can develop signs of mercury poisoning but this is extremely rare and happens only when large doses are used without resulting diuresis. Occasionally patients will develop an anaphylactic reaction with chills and fever and generalized aching. A different mercurial preparation should be tried. It is possible to be sensitive to one and not another.

A discussion of the treatment of congestive failure would be incomplete without a word about oxygen and sedation. Both are indicated. Oxygen is especially indicated when there is dyspnea at bed rest, cyanosis

and pulmonary edema. It may be given by oxygen tent, nasal catheter or oxygen mask and continued until the symptoms are relieved. Four to six liters per minute is about the average dose. Sedation should be used to insure mental and physical rest.

CONCLUSION

1. This method of treating congestive failure can be applied just as well to the early case with only dyspnea as to the late case with orthopnea and edema.
2. In following the method recommended by Gold we have been able to get patients out of bed sooner and have been able to keep them on their feet free from recurring attacks of congestive failure longer.

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THE PREVENTION OF DENTAL CARIES*

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Most of our definite knowledge concerning dental caries has been acquired within the past 15 years. Prior to that time advice and teaching was based upon speculation and theory, some of which has been substantiated.

By definition, dental caries is a destructive, progressive disease, the lesion usually starting in the grooves, inter-proximal and gingival surfaces of the teeth. "It is caused by acids resulting from the action of microorganisms on carbohydrates and is characterized by a decalcification of the inorganic portion and is accompanied or followed by a disintegration of the organic substance of the tooth."[1]

Present preventive methods are based on the following evidence:

1. Sugar is a very important causative factor in caries. Active caries can be induced in children by increasing the sugar intake while they are receiving a diet that is nutritionally adequate. Ingestion of low-sugar diets is conducive, as a rule, to freedom from caries.

2. The most constant differential between caries-free and caries-susceptible persons thus far demonstrated is the relative number of lactobacilli acidophili in the saliva. The correlation of high lactobacilli counts with a high rate of caries activity is approximately 90 per cent.

3. Dental caries differs quantitatively according to locale. Selective service data generally established inductees from the southwest as having the least caries, those from the north and east, particularly New England, as having the most. This information was of no particular surprise to the dental profession, merely corroborating data from earlier studies on caries-attack rates. Caries-attack rates are based on a total of three items: (1) Decayed permanent teeth; (2) Missing (extracted because of previous caries) permanent teeth; and (3) Filled permanent teeth. This combination has become known as the D. M. F. rate and is the dental caries experience for an individual or a group.

For purposes of comparison, D. M. F. rates are computed on children 12-13-and 14 years of age. There are wide variances in these rates with all gradations between 10 carious teeth per child in South Portland, Maine, and one carious tooth per child in McClain County, Oklahoma.[2] Oklahoma is geographically fortunate, being in the low caries area. An interesting comparison may be made of D. M. F. rates in Oklahoma and Wisconsin. The average rate for 100 children from the six largest cities in Oklahoma was 261 or approximately two and one-half carious teeth per child. The average rate for 100 children from six Wisconsin cities in-

*Presented before the Section on Medicine at the Annual Meeting of the Oklahoma State Medical Association, May 18, 1949.

cluding Milwaukee was 753 or approximately 7.5 carious teeth per child.[3] Why is the caries experience in Wisconsin nearly triple that of Oklahoma?

While no data was secured on milk consumption in Wisconsin, it is recognized as the leading dairy state in the country. We might reasonably assume a per capita consumption of dairy products equal to that in Oklahoma. We no longer, therefore, prescribe milk, excellent food though it is, as a preventive of dental caries. The most plausible explanation of the difference in the rate is an environmental one, climate, soil, water or some combination of the foregoing.

Most of you are aware of the prominent role that fluorine has assumed in controlling dental caries, but a review of developments is valuable as background. The facts came to light about 10 years ago as a secondary result of an investigation as is so often the case. The original study was on the incidence of mottled enamel in four Illinois communities. For the purpose, dental inspections were made of 12-13-14 year old children who had a history of continuous use of their respective communal water supplies. Two of these communities, Galesburg and Quincy, will serve to illustrate our point. The children in Galesburg had mottled enamel and a D. M. F. rate of 2. per child. The children in Quincy had no mottling of enamel and a D. M. F. rate of 6. per child. It will be seen that the dental caries rate was three times as great in Quincy as in Galesburg.

The chief variable with dental implications was the water supply of each of the two cities. Galesburg's water had 1.9 p.p.m. of fluorine; Quincy's water had .2 p.p.m. of fluorine. There were other differences which were essentially unimportant for our purposes.

Fluorine was known to be the cause of the mottled enamel; was it also the inhibitor of caries?

Following this lead, all subsequent investigations have supported this hypothesis. The water supply of Colorado Springs which is melted snow flowing down Pike's Peak over a fluorspar deposit confers relative caries immunity. This water is low in mineralization generally, but contains 2.5 p.p.m. of fluorine. It is also a soft water which would appear to eliminate hardness as a factor in immunity. The pH of most municipal water supplies is adjusted to slightly alkalinity before reaching the consumer, thus eliminating this variable. Speaking generally, it is now established that fluorine occuring naturally in concentrations of 1. p.p.m. will approximately halve the caries-attack rate without the undesirable mottling which results from concentrations somewhat higher, such as 2 p.p.m. and over.

There are many unanswered questions in the fluorine hypothesis. How is the immunity conferred, systemically or locally? Can it be produced by the addition of 1 p.p.m. of fluorine to communal water supplies as we now similarly chlorinate these supplies? Is it necessary that an individual use the fluoride water during the greater part of his life or at least during the formative years of dentition? Does an adult with a high caries experience acquire immunity upon moving to a low caries area?

Controlled studies are now being conducted which will in time supply some answers. Fluorine is being added to community water supplies with neighboring communities serving as controls. Of one thing we are certain: natural fluoride-bearing water exercises an inhibitory effect on the organisms which, as was stated earlier, have become the accepted index of caries activity, the lactobacilli acidophili.

This index, i.e. the lactobacilli salivary count, is used not only as a measurement but as a means in the nutritional control of caries.

The nutritional management of caries is based on the idea of reducing the number of acid-producing bacteria by removing their most important food supply (sugar). The restricted carbohydrate diet first developed at the University of Michigan School of Dentistry will control caries when instituted and strictly observed. However, its success is dependent upon the continual vigilance of the patient in restricting his intake of carbohydrates, principally sugars.

This is beset with practical difficulties. The recommended diet is a very restricted one and quite expensive in view of the preponderance of proteins and fats. If followed for an extended period the possibilities of monotony are very real. Another obvious weakness is the American's desire for sweets and his resistance to any change in food habits. However, individuals with rampant caries should be informed of the possibilities for at least partial control through moderation in their consumption of candy, desserts, sweetened soft drinks, etc.

Returning to the role of fluorine as a control agent, its effectiveness when topically applied has been established. Four treatments, the first preceded by a cleansing of the teeth, spaced at one or two a week are the approved technique. This procedure reduces the development of new decay by slightly more than 40 per cent. The immunity has a minimal duration of three years; so the treatments are recommended for children 4, 7, 10, and 13 years of age.

Kesel and others[4] obtained a marked reduction in oral lactobacilli counts by incorporating dibasic ammonium phosphate and urea in a mouth wash and a dentifrice. Two such dentifrices have been approved by the Council in Dental Therapeutics of the American Dental Association for clinical trial. Clinical investigation of these preparations has not progressed far enough to show whether their use will reduce the incidence of dental caries.

Preliminary reports[5] published on the studies of the use of penicillin incorporated in a dentifrice indicate inconclusive results and thus present information is not sufficient to warrant the general use of the compound.

Synthetic Vitamin K has anti-acid and anti-bacterial properties and preliminary studies on the use of this quinone as a caries prophylactic in human beings appear successful. The evidence to support the claims for Vitamin K incorporated in chewing gum is sufficient to encourage further controlled research.[6]

Limited experience with fluoride mouthwashes has not given promise of results for general home use.[7] Neither do the experiments with fluorine tooth polishing pastes appear to offer promise.[8] While on the subject of other uses of fluorine it must be said that studies on the daily supplements of fluorine in capsule or tablet form for children under eight years are not sufficiently advanced to warrant conclusion regarding the value of this method.

From this brief and partial account of the knowledge gained during the past 15 years, it is apparent that much progress has been made. Assuming equal progress during the next decade, which is not unreasonable, we should have many of the missing answers to an effective dental caries control program.

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MEET OUR CONTRIBUTORS

W. T. McCollum, M.D., Oklahoma City, wrote "Heart Disease—A 10 Year Study" in this issue of the Journal. He was graduated from the University of Oklahoma School of Medicine in 1940 and limits his practice to his specialty, internal medicine. Dr. McCollum is a member of the Association of American College of Physicians and has been certified by the American Board of Internal Medicine.

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Simon Pollack, M.D., Tulsa radiologist, has a paper on "Roentgen Diagnosis of Early Lesions of the Antrum of the Stomach" in the March Journal. Dr. Pollack was graduated from Rush Medical College in 1936 and was staff radiologist with the 49th General Hospital, U. S. army before he became staff radiologist at St. John's Hospital, Tulsa. He has been certified by the American Board of Radiology and is a member of the Radiological Society of North America and the American College of Radiology.

Frank P. Bertram, D.D.S., M.P.H., Oklahoma City, guest speaker at the anunal meeting, has a paper on "The Prevention of Dental Caries" in this issue. Dr. Bertram was graduated from Washington University in 1929 and is a member of the county, state and American Dental Association, American Public Health Association and the Association of Public Health Dentists.

ROENTGEN DIAGNOSIS OF CARDIAC LESIONS*

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The first consideration in a discussion of roentgen diagnosis of cardiac lesions is the determination of heart size. There are many methods of arriving at a value for normal heart size as far as transverse cardiac diameter is concerned, and one most widely used is the ratio of the transverse diameter of the heart measured from its furthest extent to the right and to the left, as compared to the transverse diameter of the thorax. The ratio is supposed to be two to one or better; that is, the width of the thorax should be at least twice as great as the transverse diameter of the heart. Although it has long been felt that this is a rather crude method of estimate and of doubtful value, it still is the most commonly employed and, as a matter of fact, in the past two years some evidence has begun to accumulate to indicate that it is more accurate than we have been led to believe. At least one published paper correlates the post-mortem and ante-mortem measurements very closely. Another commonly used method is to superimpose the patient's fist over the cardiac shadow as obtained in the roentgenogram. This is also somewhat crude but effective for day to day use, the fact remaining that a cardiac outline exceeding that of one's fist does indicate an enlarged heart. A more accurate estimate, however, involves the use of a chart which is based on the height and weight of several thousand healthy individuals, as compiled by Ungerleider, compared to the average transverse heart diameter of these screened, healthy individuals.

It is also possible to estimate the frontal cardiac area from routine films by a mathematical formula. Since the heart outline is considered to be an ellipse, the area is equal to the perpendicular long and short diameters multiplied by 0.7854 x pi/4. But this does not check out much more accurately than the more simply determined transverse diameter. The same holds for volumetric determinations.

The practical consideration of the determination of heart size is that it is an easily determined measurement. Even in the 70 millimeter survey chest films which the Health Department makes, an estimate of heart size is readily and commonly made. The trouble, of course, comes in trying to use heart measurements to detect early lesions; here the method definitely falls down because of the difficult or almost impossible differentiation between the upper limits of normal and the early or beginning abnormal changes. Too many factors enter in. For instance, a day laborer and a sedentary office worker may be the same height and weight and present identical transverse cardiac diameters, yet the heart size in the office worker may be pathologically increased, whereas the laborer's heart would be within normal range. The actual physical condition of the individual, his muscle tonus, etc., seems to vary the cardiac diameter as it does other components of the body. This holds also with the carefully determined volumetric measurements where the cardiac diameters are cubed or where actual heart models are reconstructed and their displacement in water noted. The values vary too much with changes in intrathoracic pressure during the respiratory cycle and also from other factors. Even the change from standing to sitting position will alter the heart volume as much as 10 per cent. So in the x-ray diagnosis of cardiac lesions we like to depend on the actual heart configuration more than the size. Considerations here are based on the routine posteroanterior films with which we are all familiar.

We can assume roentgenologically that four general heart outlines are recognizable: (1) normal heart, (2) hypertensive heart, (3) the so-called "aortic" heart configuration, and (4) the mitral configuration. The normal heart outline consists of a contour in which the left ventricle curves out smoothly; immediately above it is the auricular contour which may be absent, or

present only to a slight degree. Above this level is the so-called pulmonary conus which is supposed to represent the arching portion of the pulmonary artery before its bifurcation. Above this level is the normal aortic knob and the left border of the aortic arch. The right heart border consists mainly of the ascending portion of the aorta and partial outline of the right auricle. It must be realized that the right ventricle projects anteriorly and is not actually seen in the routine P-A projection unless the pulmonary conus is to be considered part of the right ventricle. The hypertensive heart typically has a bulging left ventricle with rounding of the apical portion, the heart sitting rather high on the diaphragm with no particular elongation of the left ventricle segment. The cardiac waist portion may be slightly widened and most commonly there is some bulging in the ascending aorta. As opposed to this, the aortic configuration shows prominence of the left ventricle, but this segment is elongated and tends to extend below the actual diaphragmatic line, with no particular rounding of the apical portion. Most notable in this configuration is the constantly narrow cardiac waist. The aortic knob may look prominent due to this narrowed waist portion. In the mitral heart, of course, the heart assumes a pear-shape with straightening of the left cardiac border and usually actual bulging of the pulmonary conus segment. The aortic knob, and this is important, is usually small.

There are variations from this classification, of course, and a commonly noted configuration is termed the combined mitral-aortic outline wherein mitral and aortic valve lesions exist simultaneously. Even the simple mitral configuration is altered when mitral insufficiency eventually develops in conjunction with the stenosis, thus allowing for marked enlargement of the left ventricle.

Also readily definable in these routine films is the contour and configuration of the aorta. Elongation and tortuosity of this vessel occurs consistently with arteriosclerosis, and migration of the aortic knob to near the level of the clavicle is sure evidence of elongation. The bulge of the ascending portion along the right cardiac border and of the descending portion along the left cardiac border fit in with the tortuosity to be expected.

Since cardiac aneurysm is said to occur in about nine percent of all cases of cardiac infarction studied at autopsy, it would seem that this type lesion would be readily definable on teleoroentgenograms, but of course much depends on the anatomic location of the infarct. In the case of involvement of the left ventricular wall, the most commonly noted alteration is a sharply defined bulge. The lesion may well be suspected from the film but is, of course, much better diagnosed by fluoroscopy where the paradoxical filling of the aneurysmal bulge is noted on systole and flattening out on diastole.

In the diagnosis of congenital heart lesions the routine film is of prime importance in coarctation of the aorta where notching of the inferior rib margins is apparent from the enlarged intercostal arteries which develop for the necessary collateral circulation. Although this finding has been reported in individuals as young as six years of age, it is usually not discernible before 15 years. In patent ductus arteriosus the radiographic findings are not pathognomonic. Although prominent conus and engorged hilar vessels are often listed as supportive findings, these are not detectable in a great many of the cases that have been successfully operated both at Johns Hopkins and at the Children's Hospital in Boston. Description of the fluoroscopic examinations, the use of catheterization of the heart chambers, along with angiocardiography, does not fall within the province of this type of paper.

SUMMARY

1. The simpler methods of cardiac size determination from routine films are discussed.

2. Analysis of the cardiac silhouette to be found on routine chest films is outlined.

DEATH RATE AT NEW LOW

The death rate for the U.S. in 1948 was the lowest in the history of the country, according to figures recently released by the Public Health Service's National Office of Vital Statistics. It is significant that major chronic diseases associated with advanced age accounted for 63 of every 100 deaths.

ROENTGEN DIAGNOSIS OF THE ANTRUM OF THE STOMACH*

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It is a surprising fact that with all the advances in diagnostic methods of the past 20 years, the incidence of gastric carcinoma and its low five year survival rate has shown very little improvement.[1] This is in most cases a result of delay in adequate work-up of patients until the disease is far advanced. Usually the patient fails to seek medical care because of the mildness of early symptoms. Sometimes the family physician minimizes the patient's complaints and adequate x-ray and laboratory studies are deferred until the disease is more obvious; then radical curative measures are too late.

It usually falls on the radiologist to demonstrate objective evidence of organic disease of the stomach. In patients with obvious pathological changes, such as well demonstrated ulcer niches, large tumor filling defects, rigid gastric wall infiltration, or obvious duodenal deformities, there is usually no significant problem as to diagnosis or differential diagnosis. However in very early lesions and especially those in the prepyloric or antral segment of the stomach, not only can small lesions be overlooked but often it is impossible to differentiate the exact type of such a lesion.[2,3,4]

The fact must never be overlooked that the problem of differential diagnosis depends on all data concerning the patient; i.e., the history, physical examination, laboratory findings, endoscopy, cytological studies of exfoliated cells as well as the radiological examination. Even then exact diagnosis may be obscure. It sometimes happens that the pathologist may be unable to give a final diagnosis until multiple microscopic examinations have been studied.[5] The x-ray study however is most important and unless carried out with a careful routine, good technical methods, and by an experienced observer, may fail to demonstrate early lesions.

There are a few technical considerations of importance to be stressed. First, the observer must be *well* accomodated and that takes 15 minutes by the clock. Secondly, the mucosal pattern and gastric wall mobility must be carefully observed using palpation and compression with a small amount of barium. Barium in large amounts conceals as much as it reveals. Thirdly, good spot films are invaluable to record pertinent fluoroscopic observations.

Prepyloric Ulcer: Ulcers in the prepyloric region may show associated changes such as a "meniscus" sign, infiltration of the adjacent gastric wall or an associated filling defect of a tumor mass. Any of these findings speak for carcinomatous character of such an ulcer. Likewise a cleanly punched-out ulcer which may extend beyond the contour of the lesser curvature, or ulcer with associated duodenal deformity is almost always a benign peptic ulcer. Recently a few cases have been reported of malignant gastric ulcers occurring in patients having associated peptic ulcers.[6] In addition the factor of spasm must be kept in mind. It is not uncommon to see constant annular narrowing of the prepyloric segment associated with a benign gastric ulcer. This often is constant in repeated films, does not relax with antispasmodics, and closely simulates an early annular carcinoma. The radiologist should detect such lesions and be very circumspect about making a dogmatic diagnosis. Holmes and Hamptom[4] in reviewing a series of prepyloric ulcerations found a high percentage of malignant ulcers that they could not differentiate from benign peptic lesions; they recommend resection in all such cases. The group at Mt. Sinai[7] are more conservative and advise a period of observation under strict medical management before advising resection in these equivocal cases.

Case No. 1 R. A., White female, age 36, housewife, had a history of a rather severe

*Presented before the Section on Surgery at the Annual Meeting of the Oklahoma State Medical Association, May 18, 1949.

pain localized to a small area in the epigastrium and radiating to the back; onset since November 1, 1948. The pain was dull and aching; was thought then to have "gall bladder trouble" and strict diet relieved her for about two weeks. Gastro-intestinal x-ray series was then done in Joplin, Mo., in January, 1949, and no gastric or duodenal disease was found. A regimen of liquid diet and medications afforded some symptomatic relief for about three weeks. After falling on the ice in February, 1949, she had a recurrence of the pain which was more severe. It was worse at night waking her up about 2:00 A.M. There was no relief or aggravation of pain by food intake. No diarrhea, constipation, nausea, vomiting, or food intolerance were noted. The pain was localized to the one small area in the epigastrium. There has been a slight weight loss in the past few months. The physical examination was essentially negative except for localized tenderness in the epigastrium; no masses or enlarged abdominal viscera were palpable. Pelvic examination showed old laceration of the cervix and evidence of chronic cervicitis.

The laboratory findings were as follows: Blood counts, urine, serology, and sedimentation rates were essentially negative. Gastric analysis on January 6; 41 units free acid, 51 total.

X-rays taken February 19, 1949, showed a small gastric peptic ulcer on the posterior wall of the antrum. Patient had excellent response to medication and diet. X-rays rechecked on April 7, 1949, showed complete disappearance of the ulcer.

Case No. 2: H. E. White male, age 58, entered the hospital on September 29, 1948, with a history of severe upper abdominal pain of 48 hours duration. He had previous attacks of similar pain with nausea, heartburn, belching, and vomiting for the past 30 years at intervals. Hospitalized two years previously for hematemesis and x-rays then revealed a duodenal ulcer with five hour gastric residue. Has had intermittent bloody diarrhea since 1919 and amœba found in 1925. Physical examination was essentially negative except for localized tenderness in the epigastrium.

The laboratory findings were as follows: Urine showed a trace of albumin and occasional white blood cell. WBC-10,300, Hemoglobin-14.1gms., Sedimentation rate-15mm. Two stools were negative for amœba; total serum protein was 7.9 per cent.

X-ray examination showed a well-defined prepyloric ulcer niche and a 40 per cent five hour gastric residue.

Gastric resection was done December 13, 1948, and revealed a thickened and fibrotic pylorus and healed gastric ulcer. His post-operative course was complicated; he developed a penicillin rash and had nausea and vomiting. Exploratory laparotomy on December 29th, 1948, showed herniation of an anastomotic loop through mesocolon with "caking" of the efferent loop. This was freed and sutured in position. Patient gained well and was discharged in February, 1949.

Case No. 3: R. W., White male, age 51, gave a history of "stomach trouble" of eight years duration; had "sour" stomach with flatulence, no vomiting, hematemesis, melena, or weight loss. Three weeks prior to admission patient had severe persistent upper abdominal pain and x-rays taken as an outpatient showed a prepyloric ulcer. Physical examination was essentially negative except for tenderness in the epigastrium and varicose veins of both extremities.

The laboratory findings were as follows: Urine and Kahn- negative; Hemoglobin-15.4 gms., WBC-8,600; Gastric analysis showed total of 38 and free acid of 22.

Re-check x-rays showed a preplyoric deformity and crater and an old duodenal bulb deformity without a demonstrable crater. There was a narrowing of the prepyloric segment. Because of the latter finding the possibility of an early malignant lesion could not be ruled out and surgery was advised. Gastric resection on January 7, 1949, revealed a prepyloric benign ulcer.

Case No. 4: O. S., White male, age 50, had a history of epigastric pain for three years. Some anorexia, dyspepsia, flatulence, occasional episodes of vomiting, but no vomiting of blood or tarry stools. Physical examination was esesntially negative.

The laboratory findings were as follows: Urine-negative, Hemoglobin-13.3 gms; Sedimentation rate-19, Kahn-negative; Gastric analysis showed 60 total and 48 per cent free.

X-rays showed a prepyloric deformity consisting of narrowing and a demonstrable shallow ulcer crater. The possibility of malignancy could not be ruled out and resection was done on December 21, 1948. Pathological specimen showed evidence of early ulcerative carcinoma. The patient had an uneventful post-operative coures.

Case No. 5: E. E. B.; White male, age 59, was first admitted in March, 1946, for epigastric pain and malignant gastric ulcer was diagnosed. Surgery was contraindicated at that time because of coronary sclerosis. Symptoms of epigastric pain and vomiting became more severe in past six months. Patient lost 19 pounds in weight; there was no hematemesis or melena. No precordial pain or angina were experienced in the past year. Physical examination was essentialy negative except for general malnutrition and localized tenderness in the epigastrium. No abdominal masses or enlarged viscera were noted. Blood pressure was low 90/60.

The laboratory finding were as follows: Urine and Kahn-negative, Hemoglobin-14.1 gms., WBC-12,000, sedimentation rate 22 mm; Total serum protein was 6.8 per cent, icteric index was 10.8, Cephalin flocculation ++, Gastric analysis— total acid 110, free acid 10. Electrocardiogram showed evidence of "chronic coronary insufficiency."

X-rays taken revealed a large ulcer of the lesser curvature of the antrum and stomach with rigid canalization of the prepyloric segment. There was a 75 per cent five hour gastric residue and 50 per cent gastric residue in 24 hours.

Gastric resection done on December 12, 1948 revealed a firm mass in the antrum with one metastatic nodule in the mesentery. Microscopic examination of specimen revealed adeno carcinoma. Patient recovered well, gained weight, and was discharged.

Antral Gastritis:

In addition to the ulcerative lesions there are other entities that may simulate carcinoma of the pylorus. The most important of these is antral gastritis of hypertrophic type. The characteristic x-ray findings are coarse thickened mucosal folds, oftentimes running crossway and showing a rigid pattern that may be superimposed in multiple films. When there is associated pylorospasm and superficial ulceration, this may simulate carcinoma. Oftentimes there is associated hypo or achlorhydria. Moersch[6] of the Mayo Clinic reports a 10 per cent error in the diagnosis of this condition from carcinoma in a series of 100 cases of proven hypertrophic gastritis. Likewise Kirklin shows a 10 per cent error in 100 cases of proven carcinoma where gastritis was erroneously diagnosed. These pathologically proven errors occurred in spite of careful radiologic and gastroscopic studies. The infiltrative carcinoma is the type confused with hypertrophic gastritis.

Case No. 6: O. M., White male, age 31, farmer had a history of chronic alcoholism, nervousness, upper abdominal cramps since 1942 while in service; had occasional vomiting and nausea. He was x-rayed in the Army and told he had a "deformity of the stomach". He has had recurrent symptoms since with five episodes of hematemesis. Physical examination was essentially negative.

The laboratory findings are as follows: Urine and serology-negative, WBC-6,500, Hemoglobin-100 per cent, Sedimentation rate-5 mm, Gastric analysis-68 per cent total, 37 per cent free.

X-rays taken on September 22, 1948 revealed a persistent narrowing of the prepyloric segment with demonstrable parallel mucosal folds with no evidence of ulceration or deformity. There was a mushroom type of duodenal base. No demonstrable crater, niche, or deformity of the bulb was noted. There was about 25 per cent five hour gastric residue. The findings were considered compatible with a diagnosis of antral gastritis.

Gastric resection done September 28, 1948 revealed hypertrophic pylorus "resembling that seen in infants"; some hypertrophic antral rugae was also found. No evidence of malignancy was noted on microscopic examination.

Rarer entities such as hypertrophic pyloric stenosis in adults, syphilis of the stomach, and benign gastric polyps must be differentiated from malignant lesions but will rarely be encountered by the average practitioner.

In summary I want to again stress:

1. The importance of careful x-ray studies in patients presenting early gastro-intestinal symptoms.

2. Surgical resection and microscopic examination is the only final diagnostic proof in cases of early equivocal lesions. It may be wise to observe such lesions under strict medical and dietary regime for a few weeks of therapeutic test prior to advising radical surgery.

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THERAPEUTIC CONFERENCE

The University of Oklahoma School of Medicine
Presented by the Departments of Pediatrics and Bacteriology.

IMMUNIZATION

HENRY B. STRENGE, M.D., HOMER F. MARSH, PH.D.,
CARROLL M. POUNDERS, M.D., AND J. NEILL LYSAUGHT, M.D.

DR. STRENGE: The general topic for today's discussion is immunization in childhood. I have a question for Dr. Pounders. At what age do you recommend, Dr. Pounders, that pertussis vaccine be administered?

DR. POUNDERS: I have a sort of double standard that I go by in the practice of immunization. My private practice differs from practice among clinic patients. I feel that if inoculations are postponed until the baby is six months old one gets a little better and more lasting protection than if given earlier. In other words, the baby should have time to eliminate all the passive immunity he got from his mother, which theoretically might tend to some extent to neutralize the antigen or vaccine which he gets. In private practice I still wait until the child is about six months of age. A good many of the clinic type patients are exposed to and contract whooping cough early, so I think possibly three months of age is a good time to immunize this latter group against whooping cough.

DR. STRENGE: Of the pertussis vaccines on the market, what are the various forms now available and what are the advantages of each?

DR. MARSH: May I, before I get into this question, continue along the lines of the question you asked of Dr. Pounders? Dr. Pounders remarked that he would rather wait until about six months of age in order to start immunization against pertussis, which is very good for the one reason which he mentioned — the fact that there may be a carry-over of antibodies from the maternal circulation which would tend to neutralize some of the antigen and produce a less effective response. Also, one finds in infants particularly that their antibody response is not as well developed as it is in older individuals. There is quite an accumulation of evidence which would tend to point to the fact that the individual must reach a certain age before he actually is capable of producing his own antibodies. There is what we speak of as a sort of serologic maturity, which the individual must reach before responding very well to immunization. So that if you attempt to immunize individuals at, say two or three months of age, the chances are the response would be very poor.

Now as to the forms of pertussis vaccine which are available, actually I believe they come down to two general forms. One of them is a suspension of heat-killed organisms in saline, running presumably 15 billion organisms per cubic centimeter, but actually probably running up to 25 or 30 billion organisms, which is a very heavy dose of antigen. The disadvantage of this material is the fact that very large doses have to be used. I think a series takes about 2 cc. at a single injection, with three injections constituting the series. If you take a rather fond parent who gets the child into the office, sees it receive such a heavy inoculation, and that accompanied by quite a bit of pain, you may have difficulty in completing the series of injections. That is one disadvantage of the suspension of organisms being used as a vaccine. The hemophilius pertussis is not a particularly good antigen used as a whole organism, so that very large numbers have to be present in the suspension in order to get a decent response. On the other hand the other type of vaccine is one which is prepared from filtrates of the organism, assuming there is an endotoxin which is liberated by autolysis of the organisms, and that endotoxin being responsible for the antigenic stimulus to the patient. It is claimed for the endotoxic filtrates that the reactions are much less severe, and I believe the dose is much lighter.

*This report represents the recording of a Therapeutic Conference held in the auditorium of the University of Oklahoma School of Medicine. These conferences are held each Monday at 4:00 P.M. and are attended by the upper classmen in the School of Medicine, interns, residents, and other physicians. Any physician is welcome to attend and participate. The conferences are conducted under the sponsorship of the Department of Pharmacology.

DR. STRENGE: What is the value of aluminum precipitation of pertussis vaccine?

DR. MARSH: Particularly in the endotoxic type of vaccine, the same procedures have been applied as have been used in the preparation of diphtheria toxoid, namely by using the alumina-gel method, not of concentration but of flocculation of the antigen. This assumes that the antigen will be adsorbed to the alumina-gel and as it is injected will form a very slowly soluble depot of antigen in the tissues. Thus there is a long-continued stimulation for the production of antibody, and I believe you will find that antibody titre will be greater than it will be with a fluid toxoid, and moreover it will be a more lasting response.

DR. STRENGE: The same technique has been applied to the whole bacteria pertussis vaccine, hasn't it?

DR. MARSH: That is right. I believe you run into the same difficulties there using alum-precipitation methods. However, the reaction is not quite as severe as if several billion whole organisms are held there in a depot of aluminum hydroxide.

DR. POUNDERS: I, myself, still prefer the suspension of the dead organisms and I use, at present, one made by the Cutter Laboratories in California which is a very concentrated one, 40 billion organisms per cc. If we require a total of 100 billion in the whole series, we can accomplish this by giving a half cc. the first dose and 1 cc. for the second and third doses consecutively at about one month intervals. I may switch over to the alum precipitated material if further evidence shows it to be more effective.

DR. STRENGE: We will probably come back to pertussis in connection with some other problem, but we have a question from the audience which I have passed on to Dr. Lysaught to introduce a different topic. The question is, "Discuss the use of gamma globulin in the management of measles and of other infectious diseases."

DR. LYSAUGHT: I think it has been conclusively shown that gamma globulin in the proper dosage can be used to modify or prevent measles. The usual dose is stated to be around 0.04 cc. per pound of body weight. If an individual is given this dosage before the seventh day following a known exposure he will in most cases not contract measles. If it is given between the seventh and ninth days the measles can usually be modified. As far as its value in other infectious childhood diseases is concerned, the next thing that comes to mind is rubella. It is not felt that gamma globulin is of value in the treatment of rubella. It has been used in women who have been exposed to rubella in the first trimester of pregnancy and very large doses have been injected intramuscularly (20 to 30 cc.). I have not known a case of rubella to occur in an individual so injected. When used it must be remembered that one runs the risk of inapparent infection of the mother with resultant damage of the fetus. Its value in chicken pox is probably nil. There has been one report, which was not very well controlled, of its use in an orphanage epidemic, and I do not believe it is of any use.

In infectious hepatitis is is thought that it can be used to prevent the disease if given in good sized dosages and early after exposure. Stokes, Gellis and their coworkers have proved that. It is thought to be completely without use in homologous serum jaundice, and in fact I have seen one case of fatal serum hepatitis in which the individual had received an injection of gamma globulin for attenuation of measles at just about the proper interval for incubation of serum hepatitis. In mumps it is thought that gamma globulin prepared from convalescent serum given in large doses may prevent or modify orchitis. It is not thought to prevent any of the other disseminated pathology of mumps. It is thought to be of no value in polio so far as I know.

DR. STRENGE: At the recent meeting of the Academy of Pediatrics this problem was brought up and discussed, and it was pointed out that it is possible to prevent certain forms of laboratory polio with gamma globulin. It has not at all been proven that it will prevent clinical polio and that problem is scheduled for quite large scale study, but it must of course be done under strict control. Even if it were effective it would require such tremendous quantities as to render its present use impractical.

With regard to maintaining immunity, what booster doses should be given and when should they be given?

DR. POUNDERS: Booster doses should of course be given for whooping cough because the immunity is not permanent, for tetanus, for diphtheria conditionally, for typhoid if typhoid immunization is to be carried out, and, of course, smallpox vaccinations should be repeated. Whooping cough vaccine booster shots I think should be repeated at yearly intervals beginning in a year following the first immunization. This probably should

be carried out until the child is about six to eight years of age, and then might be discontinued, hoping that one has established a fairly lasting immunity.

DR. STRENGE: If the original pertussis immunization of which you are speaking is given before six months of age, would you feel that a single booster dose was adequate at say nine months or a year of age, or would you instst on a complete repetition of the series?

DR. POUNDERS: I would feel that a single booster dose might be sufficient rather than repetition of the full series. That is my practice. The booster dose is usually the amount that you give in your initial dose of the first series, whatever that may be. As for tetanus, although most writers advise yearly boosters, this disease is not nearly as common as whooping cough and some of these other conditions, and I think that you might lengthen the interval to two years. I do this, but wouldn't argue with anyone who gives it once yearly. Also, give a booster dose of tetanus toxoid whenever there is an injury. I think any booster dose of tetanus toxoid at the time of injury might better be the regular fluid toxoid rather than alum precipitated toxoid because of the necessity for a quicker response. After initial typhoid immunization, a booster dose once a year is adequate. In the case of diphtheria, the Schick test may make booster doses unnecessary. One can do a Schick test each year or every two or three years and be reasonably safe, only giving a booster dose when one finds a positive Schick test. If one doesn't resort to the Schick test I think he should give a booster dose of diphtheria toxoid at yearly intervals, just as with whooping cough vaccine. Smallpox vaccination needs to be repeated about every six years unless there is exposure or the presence of the disease in the community. I believe that covers the booster doses.

DR. STRENGE: I would like to ask Dr. Pounders about the occasional patient who has a persistently positive Schick test after repeated booster doses of toxoid.

DR. POUNDERS: There are a few people that cannot be immunized to diphtheria, apparently, if you are to judge by the Schick test. I generally make a practice of repeating the series about twice, and then if the Schick test is very strongly positive I may even give them a full series for the third time. If it isn't very strongly positive I may give only one booster dose. If after all that the Schick test is still positive I undertake to immunize them again, and if I fail that time I am pretty apt to give up and tell them to be careful not to get exposed to diphtheria.

DR. STRENGE: I might mention that one of our residents, having been exposed to diphtheria several times, Schick tested himself and found a strongly positive reaction. Having seen some reactions to toxoid he was careful to give himself a Maloney test before he went ahead with the toxoid. You are familiar with the Maloney test — an intradermal test with 1:20 dilution of plain toxoid, read as any other sensitivity test. His forearm became quite swollen and tender, and just out of interest after that subsided he tried another Schick and found that it was now negative. In other words, this very small skin test dose of toxoid was quite sufficient to complete his immunization. Of course the Schick test itself may have had something to do with it. If it is sufficiently potent it may act as a booster. With regard to tetanus I do not think there is any absolute answer; however most children are going to be injured often enough so that they will require boosters every few years anyway.

Here is a question for Dr. Marsh's consideration. Someone asks: "What precautions must be observed in the storage of the immunizing materials?"

DR. MARSH: You will find according to the manufacturers of vaccines that all vaccines should be refrigerated at 40° C., with the possible exception of smallpox virus which should be kept frozen if possible. I really don't know how long an antigen will remain antigenic at room temperature. It depends upon what you mean by room temperature. Do you mean 35 or 40° C., such as we do have around here during the summer, or do you mean room temperature during winter? It is hard to give a satisfactory answer to this question, particularly as antigens as a rule are heat labile after they have been prepared. You may object to that on the basis that bacterial vaccines are prepared by heating the suspension in order to kill the organism, and that is true. But that is a very short heating, usually 50 minutes at not more than 50° C. So I really cannot say definitely, Dr. Strenge, how long you could use the vaccine with any assurance that it would accomplish the job after it had been left out at room temperature. They should all be refrigerated of course

between the period of purchasing them and using them. You will also notice on all packages that there will be expiration dates beyond which the material should not be used.

DR. STRENGE: Would you like to make a special comment on smallpox vaccine?

DR. MARSH: Yes. On smallpox virus the situation is a little different in that the expiration date is so short. With pertussis vaccine, typhoid vaccine, and diphtheria toxoid, the expiration date usually is eighteen months from the time it was packaged by the manufacturer. Smallpox vaccine is a living virus and the expiration date is no more than three months from time of packaging by the manufacturer. It certainly must be kept refrigerated.

DR. STRENGE: What I meant was that I have been under the impression that as much as 24 hours at room temperature is enough to inactivate smallpox virus. Is that likely to be true?

DR. MARSH: Yes, that is true.

DR. STRENGE: I have a question here which I would like to answer. "What would one do in a case of exposure to tetanus if there never has been tetanus immunization with toxoid and there is known sensitivity to horse serum? Could penicillin be used early along with tetanus toxoid, hoping to give the toxoid more time to take its effect?" I would like to answer that because I think it very important. No. Penicillin cannot be counted upon to delay the incubation period of tetanus even long enough to get the initial toxoid effect. Remember that it takes several weeks to get any effect from tetanus toxoid, and from the first dose that level will not be adequate for protection even at the end of three or four weeks. It takes a series of doses to get it up to effective levels. In the second place penicillin is not consistently effective against tetanus at all. We saw one fatal case of tetanus develop here last year in a child who had come into this hospital 24 hours after a burn, had had penicillin every four hours from within two hours after the burn, and continued to receive it here. Two weeks after the burn she developed tetanus in spite of penicillin all that time, so it cannot be relied upon. In the case of the patient sensitive to horse serum there is bovine antiserum available.

I would like to emphasize also in connection with the above case, the child not only had penicillin but received 1500 units, the textbook dose of tetanus antitoxin, at the time of the burn. That is insufficient. At least 3,000 units should be given, and I think 5,000 is probably a better dose.

DR. POUNDERS: You mean with extensive injuries?

DR. STRENGE: Wherever there is a really strong indication for the use of antitoxin prophylactically.

DR. POUNDERS: Yes, and it should be repeated at about weekly intervals.

DR. STRENGE: Where there is a burn of that sort, if one gives it at weekly intervals sensitization will not be a problem, and it can be continued until the burn has healed. Dr. Lysaught, would you care to try this one? "Would you feel it wise to check a pregnant woman's immunity to the various childhood diseases and immunize her against those to which she shows no immunity in order to protect the baby after birth?"

DR. LYSAUGHT: While I think it would be valuable to know what diseases a pregnant woman might be expected to develop under conditions of exposure, I would doubt the value of immunizing her in order to give immunity to the newborn. In the first place the danger of severe reaction from an immunizing agent is apparently greater in the older individual. Certainly the percentage of toxoid reactions of the severer type seem to go up and one might actually cause harm to the fetus. There is no doubt that one can produce immunization to pertussis, and perhaps to diphtheria, by giving the mother injections during her pregnancy, but I do question the wisdom of doing it. I am sure that Dr. Pounders probably has more experience than I. What do you think, Dr. Pounders?

DR. POUNDERS: I know there are doctors who attempt to immunize the pregnant mother against whooping cough, for instance, and then tell her that her child will be immune to it. Personally I think it rather confuses the issue. This immunity cannot be anything but passive on the part of the baby, therefore it cannot be depended upon for any definite length of time. It might, if it gives him more antibodies, interfere some with active immunization later. Therefore I think it is probably a disadvantage more than an advantage.

DR. STRENGE: Will you take this question, Dr. Pounders?

DR. POUNDERS: This question says, "Can you give DPT combinations of booster doses?" That means, I suppose, the diphtheria-pertussis-tetanus. "What objection, if any, to its use?" The combination of course is the same as one may use for initial immunization. Usually the amount of the initial dose would be the booster dose. I see no particular objection to such use of this material. In fact, if you don't resort to a Schick testing it is probably preferable. However there are some objections, especially that there is some tendency on the part of individuals to become sensitive to these toxoids as they get older. Sometimes quite undesirable reactions are encountered, so the fewer you give, the fewer reactions you are going to get.

DR. STRENGE: In the case of a wound where one wanted to protect against tetanus, he wouldn't want to use triple toxoid because that is practically all alum precipitated. In this case use clear tetanus toxoid for more rapid effect.

Another question, getting back to horse serum sensitivity, "Can one just desensitize a patient to horse serum tetanus antitoxin?" We do it all the time, or at least we say we do it. With a child who has a positive skin reaction to horse serum and a wound which seems to indicate antitoxin, we start off with a very small dose of very dilute mixture of saline and antitoxin and give increasing doses of that periodically over a period of 24-28 hours, finally reaching the total prophylactic dose of tetanus antitoxin. Whether we are actually desensitizing or whether we are distributing the shock I don't know. I will let Dr. Marsh answer that a little bit later. I think that is an acceptable alternate to the use of bovine antiserum, but bovine antiserum would be much easier to use if it is at hand. Dr. Marsh, is that desensitization? Is desensitization possible?

DR. MARSH: Inasmuch as we ordinarily think of anaphylaxis as being brought about through the exposure to animal proteins and in view of the fact that individuals anaphylactically sensitized can be somewhat desensitized by the use of the same materials in small doses, I would imagine that in this case you are accomplishing two things. One, you tend to desensitize the patient through the administration of very small doses of the antigen. Secondly, there is a possibility that although you are not desensitizing you may be staying under the limits required to bring about a reaction. I might also mention, and Dr. Strenge has mentioned, the use of bovine preparations. You can even go beyond that. There are available preparations which have been made in the goat, in the event that you run into somebody who might be sensitive to beef, and as a matter of fact I believe there are a few preparations prepared in the rabbit.

DR. STRENGE: There was another question on this topic directed to Dr. Pounders. "What criteria do you use as to when TAT is given to a child? What is the medico-legal aspect if the child develops tetanus and if the TAT was not given?"

DR. POUNDERS: I have come to think more and more that in the case of any child who has a skin abrasion and it is brought to your attention as a doctor, you had better bring up the question of tetanus prophylaxis. Most of the cases of tetanus we have had in the last few years I would say are from rather insignificant injuries, such as a blister on the heel or a small splinter in the foot. If you are going to protect yourself and the patient you had better consider any sort of skin abrasion as a possible source of tetanus and bring it to the attention of the parents. We know there are some types of injuries that are much more dangerous than others, but just because the abrasion is wide open is no guarantee against tetanus. Of course children that have been immunized actively with tetanus toxoid certainly enjoy some protection in the interim between injections, so it is probable that most of these minor injuries would be covered. As for the medico-legal view, if the child develops tetanus and has not been immunized that would be pretty hard to answer. Certainly if it is a wound of any consequence and the child was brought to you or you were consulted about it, if you didn't advise the use of tetanus prophylaxis, I think they would have a pretty good case against you. As for the minor injuries, that would be very debatable. But you would better protect yourself by bringing up the question in the case of all sorts of skin abrasions in children. Immunization with toxoid prior to any injury is of course the ideal situation.

DR. STRENGE: Dr. Lysaught just asked me to ask you to discuss the physician's responsibility for giving anti-rabic vaccine in the case of animal bites.

DR. POUNDERS: I think there too, if you are consulted about this child, if you don't follow out the recommended procedure you

would probably be liable. It depends upon where the bite is, of course. If the bite is about the face and head or a very severe bite, you probably should advise going ahead and giving the rabies vaccine without waiting. You could give it for a period of 10 days, and if the dog is still all right, then stop. If the bite is on the extremities or trunk and the dog is available, you can advise delaying vaccination while keeping the dog penned under observation by a veterinary physician. The idea is that if he has rabies he will not live more than 10 days. I might say in that connection that some question has been brought up about routinely vaccinating all dogs, which is being done in the cities especially. Some think that dogs might develop partial immunity to rabies and become a carrier, or might have a modified form of the disease, surviving longer than 10 days yet still capable of transmitting it. Whether there is anything to that I don't know. I am still going on as I explained.

DR. STRENGE: Do you always give it after rat bites?

DR. POUNDERS: Most rat bites I have seen are rather vicious. I think it well to advise rabies vaccine in those cases.

DR. STRENGE: Has your opinion as to the critical age for immunization been changed by the availability of treatment against pertussis?

DR. LYSAUGHT: No. I don't feel that I want any child to have pertussis if it can possibly be prevented, regardless of the availability of antibiotics. The treatment of pertussis even with the most recent antibiotics is not 100 per cent satisfactory, and we see quite a bit of chronic lung disease which seems to have had its origin in an attack of pertussis. Even if the child has its paroxysms markedly reduced by some antibiotic but happens to aspirate and strangle in one such paroxysm, that is calamitous. So I feel that we should continue to immunize at the earliest possible age and not wait for the disease to develop simply because we have a better method of treatment than we have had in the past.

DR. STRENGE: We have time for perhaps one more question. "Is the use of an antihistaminic with immunization, especially repeated immunizations, of any value in reducing the severity of reaction?" I would like to hear the answer to this question myself and I think the department which is really responsible for these Monday afternoon conferences might answer it. Dr. Hellbaum, would you take this question?

DR. HELLBAUM: Some have advocated the use of antihistaminics in this procedure. I think they certainly would be preferable to epinephrine, but there is insufficient good work to make a definite statement. I think in severe cases of sensitivity an antihistamine drug would have a proper place, but any possible lowering of antibody response is an unknown quantity at the moment.

The following is the suggested schedule for immunization in childhood used in the Department of Pediatrics at the University of Oklahoma School of Medicine:

I. PERTUSSIS

Immunization is by means of injection of killed organisms and is therefore of the antibacterial type which is never as solid or permanent as antitoxic immunity. Three forms of vaccine are available:

a. Saline suspension: Sauer's vaccine. This varies in concentration from 10 to 40 billion organisms per cc. The recommended total dose is 80 to 120 billion organisms given ordinarily in three doses at monthly intervals. (After exposure rapid protection can be obtained by giving plain vaccine 40 billion organisms, three doses at two day intervals. This will be accompanied by moderate reactions and the immunity will be brief in duration but may be sufficient to protect for two or three months.)

b. Alum precipitated pertussis vaccine has been shown to be quite effective; Sako believes it to be the most effective form of pertussis vaccine. He states that the total dose need be only 30 to 40 billion organisms. This material should *not* be given more frequently than monthly. There is some tendency to the formation of sterile abscesses and for this reason deep subcutaneous or intramuscular injection is recommended. (The aluminum hydroxide adsorbed pertussis vaccine does not seem to be as effective as the alum precipitated.)

c. Soluble antigens and endotoxoids prepared from pertussis organisms do not appear to be of value unless combined with the whole organism.

Maximum protective titer is reached in two to six months after pertussis vaccination and is usually maintained for two years. There has been very considerable discussion as to the optimum age for pertussis vaccination. The schedule of the American Academy of Pediatrics Committee recommended six-nine months, basing its opinion on the suspicion that prior to six months poor levels only could be maintained. Since then, Sako has very clearly demonstrated the possibility of immunizing infants below three months of age, by using alum precipitated pertussis vaccine. He feels that it is desirable because of the high early mortality in the disease, and that it is perfectly adequate provided booster doses are given at intervals of no more than two years.

II. SMALLPOX

Immunity is conferred by production of the disease "vaccinia" by introducing the living virus into the skin. Material recommended is still the virus produced from calves; it has been attempted to produce a satisfactory virus on living chick embryo media, but it has not been proven that such virus gives adequate immunization. The multiple pressure technique of vaccination is considered best. With good virus and good technique there should be no failures, although the reactions may be considerably accelerated by immunity. Smallpox vaccination should be done routinely at any age between three and 12 months, and repeated at

six and 12 years of age. Revaccination or initial vaccination should be carried out at any age if an epidemic occurs.

III. DIPHTHERIA

Immunization is produced by injection of a toxoid; toxin antitoxin is no longer used except in a few especially sensitive individuals. The forms available are:

a. Fluid toxoid, which is the best in older children who may be sensitive. Skin test with a 1:20 dilution: the Maloney test. If not sensitive the dose is 1 cc. at three or four week intervals. Small, gradually increasing doses must be used if sensitivity is found.

b. Alum precipitated toxoid is the most widely used material for basic immunization, which should be done between nine and 12 months. Two injections of one cc. are required. The ideal interval is two months, the more practical interval one month. A Schick test should be given at 18-24 months, six years and 12 years, with booster shot if indicated. Some public health programs recommend replacement of the Schick test with the booster shot.

c. Aluminum hydroxide adsorbed diphtheria toxoid, while not established when the Committee report was prepared, seems to produce equally good immunity with less reaction than does the alum precipitated.

Although the Committee recommends diphtheria immunization at 9-12 months, this immunization is also being placed earlier; six months seems satisfactory, and further studies may eventually show the possibility of obtaining persistent immunity with even earlier immunization.

IV. TETANUS

Immunization is produced as in diphtheria, by use of a toxoid which is available in the same three forms as is diphtheria toxoid and is most often used in combination with it. It is very definitely proven that use of the combination produces at least as good an immunity to each disease as does the use of the separate toxoids and since there is no increased reaction, it seems very logical to use the combination. The time of tetanus immunization, therefore, will coincide with the time of diphtheria immunization. A booster shot must be given about one year after basic immunization. Subsequent boosters are still under discussion. In the event of an injury potentially infecting the patient with tetanus organisms, certainly a booster shot should be used, and plain toxoid would be preferable here because of its rapid effect; one cc. subcutaneously, or 1/10 cc. intradermally is effective. Evidence seems to point to the fact that no other boosters are essential, but it would perhaps be safer to give them every two years.

MULTIPLE VACCINES

In addition to the diphtheria-tetanus toxoid mixture discussed above, there are now available a number of combinations of these and pertussis vaccine, which seem to have definite advantage over all other products in that the number of injections needed is reduced. Plain, alum precipitated, and aluminum hydroxide adsorbed materials are available. One such preparation contains in each cc. one human immunizing dose of diphtheria toxoid and tetanus toxoid and 20,000 million phase I pertussis bacteria. Its dose is 0.5 cc., 1.0 cc., and 1.0 cc. at monthly intervals, with a booster dose one year later.

V. TYPHOID AND PARATYPHOID

Immunization is produced by the injection of a suspension of killed organisms: mixture of typhoid, Paratyphoid A and paratyphoid B. Indication will depend upon the possibility of exposure to the disease, in other words, inadequacy of supervision of water and milk supply. Remember that even in some municipal areas, water is obtained from other than well guarded sources. In infancy, the routine boiling of water and milk renders vaccination against typhoid reasonably unnecessary. After two years, exposure is more likely. The dosage is one-half cc., 1 cc. at one to four week intervals. (If immunization should be given below two years of age, use half this dosage). A booster dose should be given every year or two. It may be 1 cc. subcutaneously or 2/10 cc. intradermally.

VI. SCARLET FEVER

Active immunization can be brought about by injection of the soluble scarlet fever streptococcus toxin in increasing doses at weekly intervals. Reactions are fairly severe and the value is open to question. It is probably not indicated in ordinary practice, but may be of considerable use in institutional epidemics. The Dick test, an intradermal test with the toxin, measures susceptibility to the disease: use 0.1 cc. and read at 24 hours.

VII. RESPIRATORY INFECTIONS

These are not generally considered among the diseases against which immunization is routinely advised. Effective immunization is available against influenza and specific pneumonia, in the form of influenza A and B virus vaccine, and solutions of pneumococcal polysaccharides. These immunizations are, of course effective only against the specific organisms they represent and not against the common cold or against respiratory infections in general. They probably are particularly indicated at times of epidemics or in the case of peculiarly susceptible children. For influenza A and B vaccine the dose is 0.5 cc. subcutaneously, repeated in a week. For pneumococcus a single injection of 0.5 cc. is sufficient for children under 12; there are two forms: combination A, including types I, II, III, V, VII and VIII, and combination B, including types I, IV, VI, XIV, XVIII and XIX. It may be desirable to give one injection of each of these two combinations in order to obtain as wide a range of immunity as possible. These immunizations are effective for a single season only.

Other vaccines against respiratory infections, that is, the so-called "cold vaccines" are of uncertain value.

VIII. TUBERCULIN TEST

Tuberculin test is, of course, not an immunization, but a test for infection with the disease. It is generally included in immunization schedules and therefore should be considered at this point. The intradermal injection of diluted old tuberculin is generally accepted as the most accurate test. 0.1 cc. of the 1:1000 solution is the usual dose and the test should be read at 72 hours. In some cases it may be well to follow with a trial of 1:100 dilution if one wishes to rule out the possibility of slight sensitivity. P.P.D. (purified protein derivative) is used in the same manner and in two strengths which correspond roughly to 1:1000 and 1:100 of O.T. The patch test is somewhat less reliable than the intradermal injection but is very popular because of its non-traumatic nature, and for this reason, its use probably results in a survey of a much larger fraction of the population. The patch should be kept on for 48 hours and the results read 48 hours after its removal.

SCHEDULE SUGGESTED BY THE AMERICAN ACADEMY OF PEDIATRICS COMMITTEE

1. Smallpox.

Routinely 3-12 months, repeated at six years, twelve years, and at any age during an epidemic.

2. Diphtheria, or diphtheria-tetanus.

9-12 months.

3. Pertussis.

6-9 months (it is questionable whether this should be employed after six years.)

4. Schick Test.

18-24 months. Reimmunization with diphtheria toxoid if necessary. Repeat this procedure at six years and twelve years.

5. Tuberculin Test.

Three years and as indicated thereafter; every three years is suggested.

6. Tetanus Toxoid.

At any age, usually in combination with diphtheria. Booster at one year and at the time of any injury.

7. Multiple combined vaccines are now being used safely against diphtheria, tetanus, and pertussis, starting at 3 months of age.

8. Scarlet Fever Toxin.

When indicated in special circumstances.

9. Typhoid Fever Vaccine.

At any age after two years — when and where it is indicated.

SAKO'S REGIME FOR EARLY IMMUNIZATION

One Month—Alum precipitated pertussis vaccine.

Two Months—Alum precipitated pertussis vaccine.

Three Months—Alum precipitated pertussis vaccine.

Four Months—Smallpox.

Five Months—Typhoid-paratyphoid.

Six Months—Typhoid-paratyphoid.

Seven Months—Typhoid-paratyphoid.

Eight Months—Combined diphtheria and tetanus toxoid; (Alum precipitated or alhydrox).

Ten Months—Smallpox, if not previously given.

Twelve Months—Tuberculin test and a diphtheria, pertussis, tetanus combination booster.

Fifteen Months—Schick Test.

Two Years—Tetanus booster, typhoid booster.

Three Years—Pertussis booster.

Six Years—Schick, Smallpox revaccination, pertussis booster.

MEDICINE IN THE NEWS

THOMAS C. POINTS, M.D.

In introducing this new department in the Journal, it is not the intent to condemn or commend the articles reviewed but to inform our readers as to content and where it can be found. When a patient says, "What about that article?", the physician can say, "I know about that article and my impression is so and so."

It is hoped that this type of reporting may help physicians who are too busy to read current lay publications. For each issue we will summarize some of the articles and list the titles of many more that appear in a great number of popular lay magazines in the hope that the physicians will know that such an article has appeared in the lay press.

"I Had My Baby Without Pain" — Betty Cockrell — *Today's Woman*, January, 1950, page 6. This is one person's picture of how she felt and performed under hypnosis throughout the course of her pregnancy and delivery. In reviewing this material, the quotation by William Harvey in 1628 is still apropos. "It is fallacious to attempt to draw general conclusions from one particular proposition."

"Before Your Operation" — Kate Holliday — *Woman's Home Companion*, January, 1950, page 44. This is a serious attempt by the author to explain to the prospective surgical patients the why's and wherefore's of all office and hospital procedures from the time such an operation was scheduled through the surgical performance including the aid of assistants and nurses.

A great many fears of the patient could be allayed by the surgeon explaining these little things but we become so used to them we don't think about them or won't take the trouble. If surgical prospects could read this article or have such an explanation from the surgeon, they would be more cooperative.

"The Race Against Pain" — Clarence Woodbury — *American*, January, 1950, page 26. A comprehensive review of all the recently discovered drugs, and some that are purely hypothetical, not only for use in the relief of pain but in all fields of medicine. This doesn't glorify them or claim that any of them are the panacea but it represents an honest effort to show that not all the so called "wonder drugs" announced in the press measure up to the claim accorded them. However, it does give credit to those now in everyday use and also the hope that others still in the experimental stage may prove effective.

A PREVIEW OF SOCIALIZED MEDICINE

Following is a chronological history of a Federal Employees' Compensation case as experienced by a member of the A.M.A Board of Trustees:

July 26—Doctor requested authorization to operate on hernia of occupational origin (bilateral).

Sept. 10—Reply received asking for a report on form CA-32.

Sept. 14—Report mailed.

Nov. 5—Date of order authorizing operation on left hernia only.

Nov. 10—Doctor again requested authority to do bilateral operation.

Dec. 31—Another letter by doctor to government bureau as a tracer to Nov. 10 letter.

Jan. 27—Letter from bureau states the request is quite unusual as one hernia is of long duration, but claim was being referred for decision.

Feb. 8—Date of authorization to operate on left hernia, bureau stating that it did not object to having right hernia repaired at no expense to government, etc.

Ho, hum, and no doubt the doctor expected the check in his Christmas mail — next Christmas, that is.

The Bettman Archive

The nausea, vomiting and dizziness of motion sickness may be prevented or relieved, in a high percentage of cases, with Dramamine* (brand of dimenhydrinate).

DRAMAMINE for the Prevention and Treatment of Motion Sickness.

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RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

President's Page

The School of Medicine of the University of Oklahoma is nearing the end of its first year of preceptorship training for senior medical students. This has been a forward step of tremendous possibilities for the betterment of medical practice in Oklahoma. It has provided and will continue to provide the students with practical experience which will serve them well in the orientation process that all must encounter in going from the academic training into actual practice of medicine.

After studying the plans and their operation in other states, notably Wisconsin, your medical school gave the responsibility for the organization of such a program to a committee consisting of representatives of the medical school faculty, medical school alumni, and the Oklahoma State Medical Association, rather than giving it to one individual. This is as it should be.

It must have required much time and deliberation on the part of the committee in the selection of the first group of preceptors. We recall the committee reported that it had fully twice as many qualified physicians applying as could be appointed. This was due to the limited number needed, the size of their town or city with preference being given generally to the smaller locations, and the geographical distribution. These facts, together with the state law requiring annual appointment of preceptors will no doubt necessitate new appointments from time to time.

Publicity concerning this program in Oklahoma has appeared in the New York Times and the radio broadcast, "Voice of America". Inquiry from adjoining states comes to us on the method of setting up and operating such a program.

It was our privilege to sit in at the mid-year meeting of the preceptors and associate preceptors as they met together and discussed their experiences, problems and future plans for this phase of medical teaching. It was most stimulating and encouraging to observe the enthusiasm and the sincere and serious attitude of that group of physicians toward the responsibility and opportunity afforded by the preceptorship, thus assuring the success of the plan.

That these senior students may see all phases of the practice of medicine and the life of the physician and his family in the smaller areas, the preceptors or associate preceptors should introduce them to the social, civil, cultural, religious and recreational activities of their communities. Wherever practical, the wives of these students should accompany them on their preceptorship training, that they too may see these things and know them for their real worth.

Physicians interested in qualifying as preceptors should write to the Dean of the University of Oklahoma School of Medicine, 801 N.E. 13th., Oklahoma City.

George H. Garrison

President.

LIQUID
Bi-sulfazine
(SULFADIAZINE-SULFAMERAZINE COMBINED)

Palatable, low-toxicity sulfonamides which are even less toxic (in so far as renal damage is concerned) than either drug alone.

Each 30 cc. contains:
Sulfadiazine, microcrystalline
1.5 Gm. (22 grs.)
Sulfamerazine, microcrystalline
1.5 Gm. (22 grs.)
Each teaspoonful (5 cc.) supplies 0.5 Gm. (7½ grs.) of total sulfonamides.

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Pharmaceuticals

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PUBLIC RELATIONS REPORTER

NEW BROOKINGS REPORT

The Brookings Institution of Washington, D. C., a privately financed economic research organization, has announced its findings in a new study of the cost of financing Social Security. The report seriously questions the financial soundness of the present Social Security system and of the administration's proposal for its expansion. It recommends a pay-as-you-go system in which each generation would take care of its own dependents.

"Mushrooming benefit costs," the report says, "expanding annually for the next 50 years, may result in a burden of taxation beyond the capacity of the economy to support without a substantial increase in the price level." The Brookings Institution recommends that the current pattern of old age and survivors insurance with its pseudo resemblance to private insurance, should be abandoned entirely and a pay-as-you-go plan enacted.

NEW RADIO PROGRAMS AVAILABLE

A group of new public service radio programs is available for local sponsorship by County Medical Societies. If your Society is interested in obtaining one of these, contact the Public Relations Secretary at the Executive Office, 210 Plaza Court, Oklahoma City 3.

THE DRUGS YOU USE — common sense information about the drugs you use. Outstanding medical authorities interviewed by Harriet Hester. 13 programs in series, 15 minutes each.

LIVING PROOF — recorded experiences in the actual words of patients, presented in interview style, with discussion of specific conditions by qualified medical specialists and a closing summary by W. W. Bauer, M.D., of A.M.A. 13 programs in series, 15 minutes each.

DOCTORS MAKE HISTORY — the lives of eminent physicians and their contributions to medicine dramatically narrated by Jim Ameche. 13 programs in series, 15 minutes each.

YOUR CHILD GOES TO SCHOOL — questions relating to the health of school children, discussed by D. A. Dukelow, M.D., and Fred V. Hein, Ph.D., of A.M.A. 13 programs in series, 15 minutes each.

SOCIALIZED MEDICINE — a talk by Louis H. Bauer, Chairman, A.M.A. Board of Trustees. 15 minute single program.

SOCIALIZED MEDICINE IN ENGLAND — talk by Ralph J. Gampell, M.D., formerly of Manchester, England. 15 minute single program.

HEALTH INSURANCE POLL

The New Jersey Poll, conducted by the Princeton Research Service, reported recently that at the close of 1949, 46.6 per cent of New Jersey's adult population felt that Congress should pass the Truman compulsory health insurance plan. 43.4 per cent opposed the program and 10 per cent were undecided.

The Poll characterized the margin of 3.2 per cent as "very narrow" and stated that all their survey findings are subject to an average error of four percentage points because of sampling variations.

As in previous polls, most emphatic support for the Truman plan was found in the biggest cities. In rural communities and medium sized towns, a clear majority appeared to oppose compulsory health insurance, whereas in cities of 100,000 or more, the vote ran nearly two to one in favor of the plan. Younger people are found to be much more likely to favor compulsory health insurance than those 45 years of age or over. And in general, the more education a person has the more likely he is to oppose compulsory health insurance.

HEALTH OFFICERS OPPOSE COMPULSION

Health officers would inevitable be among those chiefly responsible for administering a plan of national compulsory health insurance. In the past, many health officers have been less than enthusiastic in their opposition to federally controlled compulsory health insurance plans. However, the Executive Committee of the Association of State and Territorial Health Officers has taken a firm stand opposing such plans in recent Senate hearings on health bills.

The Association opposed the administration's bill to socialize medicine (S. 1679) stating in part "The Association is opposed to the principle of compulsory health insurance and believes that such a program, initiated at national level, should not be resorted to until all other avenues of approach, such as research, hospital construction, aid to education, extension of and complete coverage by local health services, and voluntary hospital and medical care programs have been given the fullest opportunity under favorable conditions and proven inadequate to the needs of the people."

in Mixed Bacterial Genitourinary Infections

Aureomycin is now rapidly becoming recognized as a drug of choice in the treatment of mixed bacterial genitourinary infections, particularly those in which *Escherichia coli* and *Aerobacter aerogenes* play a part. Intractability of a genitourinary infection is an especial indication for aureomycin.

Aureomycin has also been found highly effective for the control of the following infections: African tick-bite fever, acute amebiasis, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, acute brucellosis, Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), Gram-negative infections (including those caused by the *coli-aerogenes* group), granuloma inguinale, *H. influenzae* infections, lymphogranuloma venereum, peritonitis, primary atypical pneumonia, psittacosis (parrot fever), Q fever, rickettsialpox, Rocky Mountain spotted fever, subacute bacterial endocarditis resistant to penicillin, tularemia and typhus.

AUREOMYCIN HYDROCHLORIDE LEDERLE

Capsules: Bottles of 25, 50 mg. each capsule. Bottles of 16, 250 mg. each capsule.
Ophthalmic: Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.

AUREO-MYCIN

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY 30 Rockefeller Plaza, New York 20, N. Y.

SHORT COURSE SLATED IN GENERAL SURGERY

Stressing general surgical topics, the problems which are confronted in every day practice of those in general practice as well as those specializing in surgery, a three day short course in general surgery will be presented at the University of Oklahoma School of Medicine April 6, 7, and 8. Guest speaker will be Champ Lyons, Professor of Surgery at the Alabama Medical College.

Primarily intended for Oklahoma physicians and surgeons, the course is open to any doctor of medicine from adjacent states. Operative clinics must be restricted to the first 30 registrants because of limited space but there will be no limit on enrollment for the rest of the course.

Registration fee will be $15.00.

Program is as follows:

PROGRAM
GENERAL SURGERY
Thursday, April 6, 1950

8:30 A.M. Registration
Morning Session Moderator—A. Ray Wiley, M.D.
9:30 A.M. Diagnosis of Acute Abdominal Disease, Gregory E. Stanbro, M.D.
10:15 A.M. Recognition of Abdominal Lesions from Gross Appearance, Howard C. Hopps, M.D.
11:15 A.M. X-Ray Diagnosis of Surgical Lesions of the Abdomen, P. E. Russo, M.D.
12:15 A.M. Recess for Lunch
Afternoon Session Moderator—O. R. White, M.D.
1:45 P.M. Abdominal Manifestations of Genito-Urinary Disease, Basil A. Hayes, M.D.
2:45 P.M. Applied Anatomy of Peritoneal Cavity, Ernest Lachman, M.D.
3:40 P.M. Recess
4:00 P.M. Early Recognition of Neoplasms of Colon and Rectum, R. L. Murdoch, M.D.
Friday, April 7, 1950
8:00 P.M. to 11:00 A.M. Operative Clinics
Austin H. Bell, M.D., E. M. Farris, M.D., Gregory E. Stanbro, M.D., S. N. Stone, M.D., D. W. Branham.
Anesthesia—H. A. Bennett, M.D.
11:15 A.M. Principles of Surgical Technique, H. C. Dodson, Jr., M.D.
12:15 P.M. Recess for Lunch
Afternoon Session Moderator—Ray H. Lindsey, M.D.
1:30 P.M. Surgical Management of Peptic Ulcers, C. M. O'Leary, M.D.
2:30 P.M. Hazards of Gall Bladder Surgery, F. M. Lingenfelter, M.D.
3:15 P.M. Recess
3:30 P.M. Ruptured Ectopic Pregnancy, Joseph W. Kelso, M.D.
4:15 P.M. Pediatric Surgery, Patrick S. Nagle, M.D.
Saturday, April 8, 1950
Morning Session Moderator—C. E. Clymer, M.D.
9:30 A.M. Acute Blood Loss, Joe M. Parker, M.D.
10:30 A.M. Relation of Hypoproteinism to Wound Healing, Champ Lyons, M.D.
12:00 M. Recess for Lunch
Afternoon Session Moderator—L. J. Starry, M.D.
1:30 P.M. The Ruptured Appendix, Everett B. Neff, M.D.
2:30 P.M. Management of Surgical Infections, Champ Lyons, M.D.

CLINICS TO FEATURE FOURTH CIRCUIT

Robert M. Becker, M.D., will open the fourth circuit of instruction in Internal Medicine on March 20. The teaching centers will be Guthrie, Ponca City, Stillwater-Cushing, Bristow-Sapulpa, and Tulsa.

With the coperation of the physicians attending, a clinic will be held by Doctor Becker in the evening before the lecture. Physicians having patients who are diagnostic or therapeutic problems are encouraged to bring their patients to the clinic for presentation and discussion by Doctor Becker and the group.

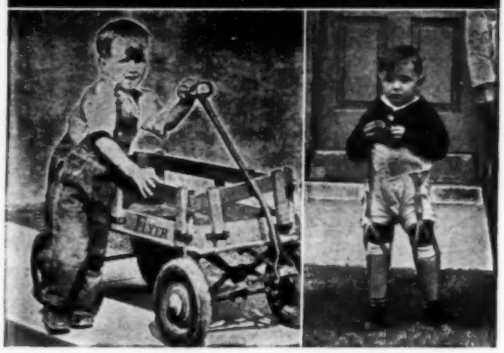
The subjects covered by Doctor Becker will include "The Psychoneurotic Patient", "Clinical Heart Disease", "Renal-Vascular Diseases", "The Anemias and Leukemias", "Allergy and the Hypersensitivity Diseases", "Endocrinology", "Gastro Intestinal Diseases", "Hepatic and Biliary Disorders", "Preventive Medicine and Infectious Diseases", and "Antibiotics and Chemotherapy".

Reports from the first three circuits are very gratifying to the committee. The attendance has been excellent and the lectures are being received by the attending physicians with great enthusiasm.

Announcements have been mailed to all physicians in the fourth circuit and those who have not mailed their enrollments in to the Postgraduate Committee should do so at once in order that their names will be on the rolls for the first lecture.

Doctor Becker is now abstracting the current literature in Internal Medicine and such abstracts are published in this issue of the Journal. The Committee feels that this is a worth while service on the part of Doctor Becker and will be of much value to the busy practitioner.

"... he runs and plays again!"



Hanger Prosthetic Appliances have brightened the present and the future for many amputees. For example, Weaver Nolt says: "My son, Lloyd, was a pathetic figure in a big hospital bed after his legs were amputated because of an accident. Today it's a big and wonderful world again as he gets along so wonderfully on his Hanger Legs. He walks without any help, and runs and pushes his wagon all over the farm. That other day is just a hazy memory, and we are so pleased things are so different than we expected.

HANGER ARTIFICIAL LIMBS
BRACES · ARCH SUPPORTS TRUSSES
612 N. Hudson Oklahoma City 3, Okla.

NEW MEMBERS OF O.S.M.A.

The following physicians became new members of the Oklahoma State Medical Association during January:

Frank E. Flack, M.D., Woodward
Don McNeal, M.D., Taloga
Ray E. Spence, M.D., Maysville.

AUXILIARIES URGED TO MARK DOCTOR'S DAY

All auxiliaries in the Southern States are urged to plan some appropriate observance honoring their physicians on or near March 30, Doctor's Day. Observance of Doctor's Day creates an excellent opportunity for some favorable publicity for the medical profession, an O.S.M.A. Auxiliary representative pointed out.

In past years some auxiliaries have sponsored parties for their local Medical Societies; others have sent flowers to each doctor's office and still others have provided a flower for each doctor to wear in his lapel on that day. At the meeting of the Southern Auxiliary in Cincinnati in 1949, the red carnation was adopted as the official flower for Doctor's Day.

March 30 was adopted in 1934 by the Southern Auxiliary as Doctor's Day with the object being to honor the medical profession and pay tribute to the doctors. This date was selected in memory of that March 30 in 1842 when Dr. Crawford Long successfully used the first anesthesia. The first observance was held in Atlanta, Georgia in 1935, and since that time most of the southern states have observed the day.

SCHEDULE

COMING MEETINGS IN POSTGRADUATE INSTRUCTION, UNIVERSITY OF OKLAHOMA SCHOOL OF MEDICINE

1. March 20, 21 and 22, 1950. Three day course in General Pediatrics. Guest lecturer William L. Bradford, M.D., Professor of Pediatrics, at the University of Rochester School of Medicine, Rochester, New York, and Nelson Ordway, M.D., Professor of Pediatrics, Louisiana State University, New Orleans.

2. April 6, 7, and 8, 1950. Post-graduate course in Surgery. Guest instructor Champ Lyons, M.D., Professor of Surgery, Medical College of Alabama, Birmingham, Alabama.

3. April 17 and 18, 1950. Two day course in Pediatrics — "Care of the Premature Infant". Guest speaker Harry H. Gordon, M.D., Professor of Pediatrics at the University of Colorado School of Medicine, Denver, Colorado.

4. April 24-30, 1950. Tour of five centers in the state in conjunction with the State Association for Infantile Paralysis. A course in Diagnosis and Management of Poliomyelitis will be given in each center.

5. June 1, 2, and 3, 1950. Three day course of Cardiology. George C. Griffith, M.D., Cardiologist from Los Angeles, California, will be the guest speaker.

Place these dates on your calendar and plan to attend these courses at the University of Oklahoma School of Medicine.

A BIG TIME-SAVER FOR EVERY DOCTOR

This handy booklet for new mothers was "built to doctors' orders". It contains blank forms for filling in your instructions and formulas.

It provides a permanent case-history record. A memo will bring you a sample...or as many as you want for your daily practice... without obligation.

Many doctors are prescribing "Daricraft Homogenized Evaporated Milk". It is always uniform, safe, sterilized, easy to digest, and high in food value and minerals. Daricraft contains 400 U. S. P. units of Vitamin D per pint.

PRODUCERS CREAMERY CO., SPRINGFIELD, MO.

PHYSICIANS, STUDENTS APPROVE O.U. PRECEPTORSHIP PROGRAM

ONE YEAR TRIAL BRINGS INQUIRIES

With the fourth group of senior medical students now serving their preceptorships, the response to the program has been gratifying both from the standpoint of the students and their preceptors, reports Dean Homer F. Marsh of the University of Oklahoma School of Medicine.

At a recent meeting of the preceptors, all expressed the desire to stay on the program. Eighteen preceptors are now serving and there is a waiting list in the dean's office of O.S.M.A. members who have made application to participate.

1950 medical school graduates initiated the program which began June 1, 1949. Purpose of the preceptorship program, lengthening the senior year to 44 weeks, is to stimulate the students' interest in and acquaintance with practice in the rural areas of the state. The plan was used successfully first in Wisconsin 20 years ago and several other states are using variations of the Wisconsin system. Kansas is slated to begin a similar program this year.

Several students already have stated they intend to go back to some small community instead of a city to practice, which indicates the program is achieving part of its goal, Dr. Marsh pointed out. Citing the fact that most rural communities offer opportunities not excelled in metropolitan areas, Dr. Marsh explained that many of the students had not expected to see the large practices, modern hospitals and equipment they have found in the smaller towns.

Students are expected to make reports every two weeks giving a resumé of the cases they have seen and at the end of their preceptorship period, each student's general comment and criticism of the plan under his individual preceptor is submitted in writing.

The preceptors are in turn notified if changes suggested by the student are approved by the Preceptorship Committee. Preceptors are also required to make reports to the medical school giving their evaluation of the students.

Preceptors, who have been established as acting members of the medical school staff, serve without pay and are responsible for providing the students they are teaching with board, room, and laundry of uniforms during the 11 week period.

Students are not treated as assistants to the physicians and are not allowed to receive any payment from preceptors, associate preceptors or hospitals participating in the program. The plan is described by Dean Marsh as one in which the student observes but does not practice medicine although he is expected to accompany his preceptor on calls, observe each patient and the treatment given the patient, and witness operations performed during the period.

Interest in the program on a national and international basis was shown recently when the State Department featured the University of Oklahoma's preceptorship plan on its Voice of America, Crossroads, U.S.A. program. The broadcast was in two parts, the first outlining the "what" and "why" of the program and reviewing its accomplishments; the second phase of the program featured an interview with a student who presented his views of the preceptorship system.

FORTY STATE HOSPITALS APPROVED BY A. C. S.

Forty Oklahoma hospitals have been approved by the American College of Surgeons, reports Malcolm T. MacEachern, M.D., Chicago, ACS director.

They are: Ada—Valley View Hospital. Ardmore—Hardy Sanitarium. Bartlesville—Washington County Memorial Hospital. Claremore. Clinton-Indian Hospital, Western Oklahoma State Hospital, and Western Oklahoma Tuberculosis Sanatorium. Cushing—Masonic Hospital. El Reno—Federal Reformatory Hospital.

Enid—Enid General Hospital and St. Mary's Hospital and annex. Fort Supply—Western Oklahoma Hospital. Fort Sill—Fort Sill Station Hospital. Guthrie—Benedictine Heights Hospital. Lawton—Kiowa Indian Hospital. McAlester—Albert Pike Hospital and St. Mary's Hospital.

Muskogee—Muskogee General Hospital and Oklahoma Baptist Hospital. Norman—Central Oklahoma State Hospital and Ellison Infirmary. Oklahoma City—Bone and Joint Hospital, Mercy Hospital, St. Anthony Hospital, Oklahoma Hospital for Crippled Children, University Hospital, Wesley Hospital, and Will Rogers Memorial Hospital.

Pawnee—Pawnee-Ponca Indian Hospital. Ponca City—Ponca City Hospital.

Shawnee—ACH Hospital, Shawnee Indian Sanatorium and Shawnee City Hospital.

Stillwater—Stillwater Municipal Hospital. Sulphur—Oklahoma State Veterans Hospital. Tahlequah—William W. Hastings Indian Hospital.

Talihina—State Tuberculosis Sanatorium and Talihina Indian Hospital.

Tulsa—Hillcrest Memorial Hospital and St. John's Hospital.

PEDIATRICS COURSES AVAILABLE TO DOCTORS

Open to any interested physicians, three guest lecturers will present post graduate courses in pediatrics at the University of Oklahoma School of Medicine in March and April.

William L. Bradford, M.D., Professor of Pediatrics at the University of Rochester School of Medicine, Rochester, New York, will speak on general pediatrics and Nelson Ordway, M.D., Professor of Pediatrics, Louisiana State University, New Orleans, will discuss "Congenital Heart Disease," March 20, 21, 22.

April 17 and 18, a post graduate course in "Care of the Premature Infant" will be held. Guest lecturer will be Harry H. Gordon, M.D., Professor of Pediatrics at the University of Colorado School of Medicine, Denver.

CARDIOLOGY COURSES TO BE HELD IN JUNE

Lectures, panel discussion groups, and cardiac clinics are planned on the three day program of the postgraduate course in cardiology at the University of Oklahoma School of Medicine June 1, 2, and 3.

Physicians are urged to place this date on their calendars as the three days will be devoted to study of fields of interest to both the cardiologist and the physician doing general work. George C. Griffin, M.D., cardiologist at the Los Angeles County Hospital, will be guest lecturer.

An Observation on the Accuracy of Digitalis Doses

Withering made this penetrating observation in his classic monograph on digitalis: "The more I saw of the great powers of this plant, the more it seemed necessary to bring the doses of it to the greatest possible accuracy."[1]

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1. *Withering, W.:* An account of the Foxglove. London, 1785.
2. *Rimmerman, A. B.:* Digilanid and the Therapy of Congestive Heart Disease, Am. J. M. Sc. *209:* 33-41 (Jan.) 1945.

Literature giving further details about Digilanid and Physician's Trial Supply are available on request.

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MEDICAL SOCIETIES AROUND THE STATE

Tulsa County

R. Lyle Motley, M.D., Associate Professor of Medicine at the University of Tennessee School of Medicine, Memphis, was guest speaker at the Tulsa County Medical Society January 23. Dr. Motley spoke on "The Importance of Neurogenic Pain to the Surgeon and Internist."

Caddo-Grady

Speaking briefly on the activities of the State Association, Dick Graham, Executive Secretary, addressed the members and Auxiliary of the Grady-Caddo County Medical Society at the Jan. meeting.

Pittsburg County

Rev. W. H. Alexander, Oklahoma City, was guest speaker at a January meeting of the Pittsburg County Medical Society. Members of the Latimer County Society also attended the meeting.

Lincoln County

Members of the Lincoln County Medical Society met in Stroud recently for the annual election of officers. H. T. Baugh, M.D., Meeker, was elected president; E. F. Hurlbut, M.D., Meeker, was named vice-president; and D. H. Collins, M.D., is the secretary-treasurer.

Washita-Kiowa

The Washita-Kiowa County Society and members of the auxiliary had a joint meeting at Sentinel January 10. The March meeting of the society will be held at Hobart. William K. Ishmael, M.D. and John F. Kuhn, M.D., Oklahoma City spoke on modern treatment of arthritis at the January meeting.

Kay-Noble

Harold G. Muchmore, M.D. and Robert F. Redmond, M.D., of the staff of the University of Oklahoma School of Medicine, were guest speakers at the Kay-Noble County Medical Society meeting in Ponca City recently. "A Review of Anti-Histamines" was the subject of their lectures.

Logan County

Newly elected officers of the Logan County Medical Society are Phillips R. Fife, M.D., president; R. F. Ringrose, M.D., vice-president; and J. E. Souter, M.D., secretary-treasurer.

Okmulgee-Okfuskee

M. L. Peter, M.D., was installed as president of the Okfuskee-Okmulgee Society during January. S. B. Leslie, Jr., is secretary-treasurer. Principal speaker at the meeting was A. B. Carney, M.D., Tulsa.

Choctaw-McCurtain-Pushmataha

Dentists, pharmacists and physicians in the tri-county area attended the January 10 meeting of the Choctaw-McCurtain-Pushmataha County Medical Society. The program was presented by Thomas D. Howard, M.D., Robert Head, M.D., both of Idabel, and Dean F. Werner, M.D., Broken Bow.

Jackson County

Onis G. Hazel, M.D., Oklahoma City, discussed "Diseases of the Skin" and William K. Ishmael, M.D., Oklahoma City, spoke on "Use of the Newer Hormones in Arthritis" at the Jackson County Medical Society meeting recently.

Stephens County

1950 officers of the Stephens County Society are W. R. Cheatwood, M.D., Duncan, president; Jack Gregston, M.D., Marlow, vice-president; and Fred Taylor, M.D., secretary-treasurer.

Garfield-Kingfisher

Members of the Garfield-Kingfisher County Medical Society elected Charles J. Roberts, M.D., Enid; Raymond G. Jacobs, M.D., vice-president; Roscoe C. Baker, M.D., re-elected secretary. Basil A. Hayes, M.D., Oklahoma City, spoke on the socialized medicine plan in England as is operates today.

Pottawatomie County

J. M. Byrum, M.D., spoke on Medical Ethics and W. M. Gallaher, M.D., led the discussion when the Pottawatomie County Medical Society met January 18.

Oklahoma County

The Oklahoma County inaugural party for 1950 officers was held January 14 at the Oklahoma City Golf and Country Club. New officers installed are: John F. Kuhn, M.D., president and Ralph Smith, M.D., secretary.

ANNOUNCEMENTS

OKLAHOMA ACADEMY OF GENERAL PRACTICE. March 27-28. Sievers Hotel. Muskogee.

OKLAHOMA STATE MEDICAL ASSOCIATION. June 5-6-7, Municipal Auditorium, Oklahoma City.

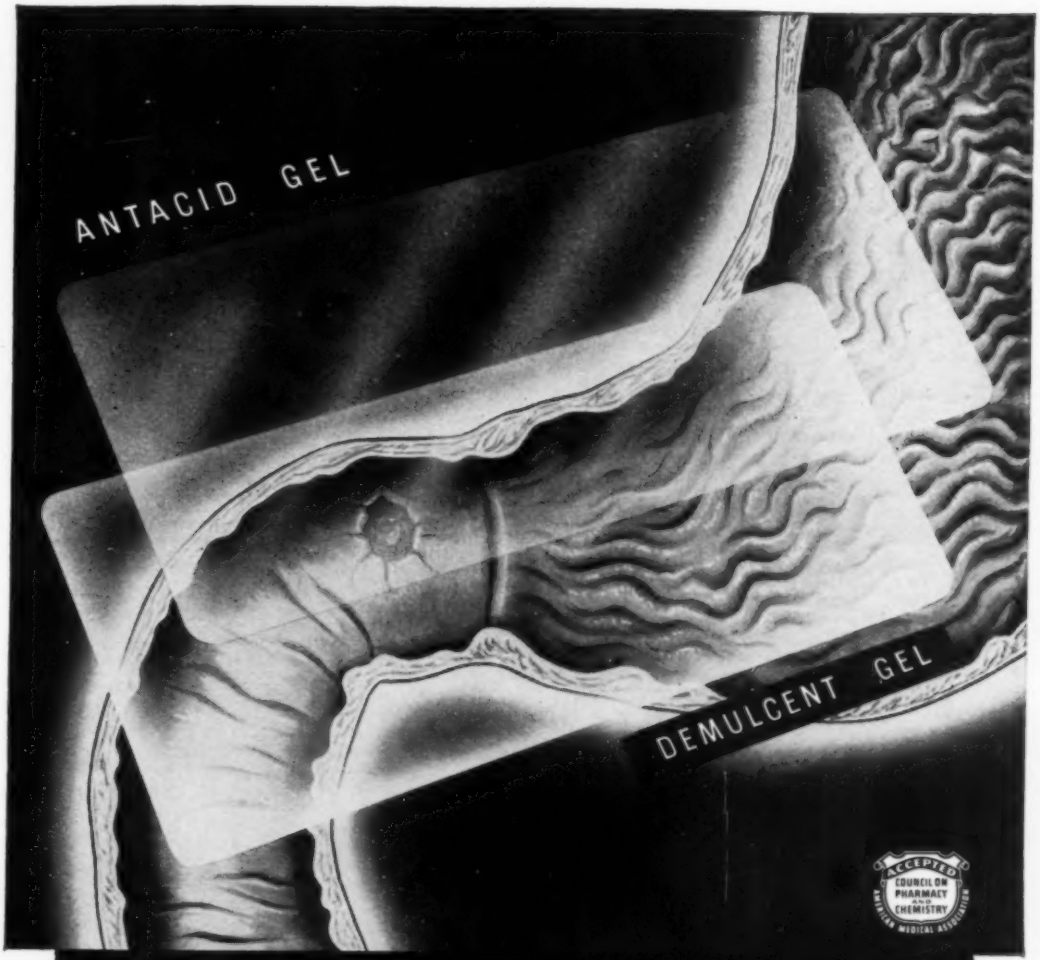
OKLAHOMA CITY CLINICAL SOCIETY. Oct. 30-31, Nov. 1-2, Biltmore Hotel. Oklahoma City.

A.M.A. June 26-30. San Francisco.

CORPS EXAMINATIONS FOR MEDICAL OFFICERS. May 15, 16, 17. Applications must be received no later than April 17, 1950.

POSTGRADUATE ASSEMBLY IN ENDOCRINOLOGY. Roney Plaza Hotel, Miami Beach, Florida, April 3-8. Sponsored by the Association for the Study of Internal Secretions and the American Diabetes Association. Application on your letterhead with check for $75 payable to the Association for the Study of Internal Secretions should be sent to Henry H. Turner, M.D., Secretary-Treasurer, 1200 North Walker, Oklahoma City.

AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS. April 22-29. Sherman Hotel, Chicago.



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HAVE YOU HEARD?

Evelyn M. Rude, M.D., formerly with the student health service at the University of Oklahoma, has been employed as physician in Saudi, Arabia with the Arabian-American Oil Company.

Basil Hayes, M.D., Oklahoma City, spoke to the Midwest City Lions Club on "Shall We Have Socialized Medicine".

W. F. Lewis, M.D., Lawton, was guest speaker at the Apache Rotary Club.

N. H. Cooper, M.D., Ponca City, was principal speaker at a recent Stillwater Chamber of Commerce luncheon.

P. J. Devanney, M.D., was elected president of the Sayre Golf and Country Club for the coming year.

L. E. Crick, M.D., Britton, discussed the recent polio drive at the Britton Kiwanis Club.

E. C. Mohler, M.D., and *Edwin C. Yeary, M.D.*, have recently opened new offices together in Ponca City.

O. H. Cowart, M.D., Bristow, is chairman of the main street improvement committee of Bristow.

H. K. Speed, M.D., Sayre, discussed "New Medicines" at the Sayre Rotary Club meeting recently.

C. H. Guild, M.D., Shidler, is a member and secretary-treasurer of the Shidler Improvement Association.

Jack Murray, detail man in the Oklahoma City territory for 15 years with Squibb has returned to his native state of Tennessee. Taking his place is Bob Friersen, formerly of Wichita.

J. B. Lansden, M.D., Granite, recently celebrated his 49th year in the practice of medicine. He has practiced in Granite since 1913.

C. Riley Strong, M.D., El Reno, told the Business and Professional Women's Club of that city that "compulsory health insurance is not insurance but politically controlled medicine, proposed by the federal security administration".

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Guthrie, Oklahoma

John Simon, M.D., Alva, spoke to the Alva Rotary Club on health education recently.

Bill McCurdy, M.D., Purcell, is the new president of Purcell's chamber of commerce and agriculture.

Mark D. Holcomb, M.D., Enid, discussed the treatment of atomic injuries at an Optimist Club meeting there.

Edward T. Cook, Jr., M.D., Anadarko, was guest speaker at a P-TA meeting.

Robert W. Gibson, M.D., has joined his father, *R. B. Gibson, M.D.*, in practice in Ponca City.

Roy L. Fisher, M.D., Frederick, attended a meeting of the American College of Surgeons in El Paso February 12.

John R. Lawson, M.D., Clayton, has recently been featured in articles in the Daily Oklahoman and Grit as Clayton's most useful citizen.

D. W. Branham, M.D., Oklahoma City, who has been ill for several weeks is now back at his practice.

Coyne Campbell, M.D., Oklahoma City, announces that the name of the Coyne Campbell Sanitarium has been changed to the Spencer Road Sanitarium and that the offices of the Coyne Campbell Clinic have been moved to 2920 Classen Blvd., Oklahoma City.

Robert W. Head, M.D., Hugo, has been appointed district superintendent of health for Choctaw and McCurtain counties.

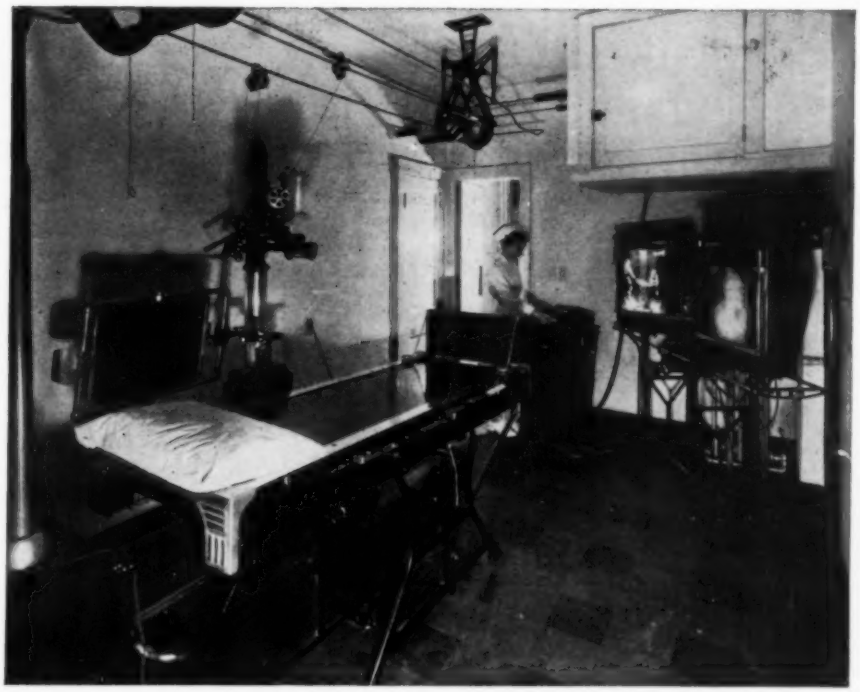
Dick Graham, O.S.M.A. Executive Secretary, spoke on "What Will Socialized Medicine Mean to You?" at the social studies group of the Tulsa A.A.U.W. Jan. 5.

PHYSICIANS VIEW SURGERY VIA TELEVISION AT MEDICAL SCHOOL

Television was used for the first time for teaching purposes at the University of Oklahoma School of Medicine, Saturday, January 28, 1950, at the annual postgraduate instruction program of the Oklahoma City Obstetrical and Gynecological Society.

A hysterectomy performed by Albert H. Aldridge, M.D., Chief Surgeon at the Woman's Hospital, New York City, N. Y., guest lecturer, was televised from the operating suite at University Hospital to the auditorium in the Nurses Quarters, where approximately 130 doctors attending the course were watching. The response was enthusiastic, with several of the visiting physicians stating they saw much more of the operation than previously had been posible from the operating suite galleries.

The television broadcast was made by the WKY-TV mobile unit. The office of Postgraduate Medicine, University of Oklahoma School of Medicine cooperated in the program.



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TWENTY-FIVE YEARS AGO

(From Our Early Files of Editorial Notes—Personal and General)

CREEK COUNTY MEDICAL SOCIETY met at Bristow February 13, at the Roland Hotel, with a good attendance.

DR. EARL D. McBRIDE, Oklahoma City, held a crippled children's clinic at Clinton on February 7, under the auspices of the Clinton Rotarians.

THE OKLAHOMA CENTRAL MEDICAL ASSOCIATION recently re-organized at Enid, will meet again at Enid on April 2; Dr. Paul Champlin, Enid, is Secretary.

OSAGE COUNTY MEDICAL SOCIETY met at Pawhuska February 2 at the Municipal Hospital. Dr. Fred A. Glass, Tulsa, being the principal speaker of the evening.

THE AMERICAN COLLEGE OF SURGEONS district convention for 1926 will meet at Tulsa, it was decided at the Little Rock meeting in February; the district consists of the states of Oklahoma, Arkansas, Texas and Missouri. Dr. Leroy D. Long, Oklahoma City, was elected President, Dr. Fred S. Clinton, Tulsa, Secretary, and Dr. Horace Reed, Oklahoma City, Councilor, for the district.

OBITUARIES

J. S. FULTON, M.D.
1866-1950

J. S. Fulton, 84-year-old pioneer Oklahoma physician, died January 25 at his home in Atoka.

Dr. Fulton established his practice in 1891 after graduating from the Louisiana University Medical School. He was born in Grayson County, Texas, and attended public schools there.

Dr. Fulton was president of the Indian Territory Medical Association in 1893 and later became president of the Oklahoma State Medical Association. He was president of the Atoka school board for 12 years and headed the Atoka Chamber of Commerce 20 years. He had been a Mason more than half a century. Dr. Fulton, who had received the O.S.M.A. 50 year pin, celebrated his 50th year in the medical profession in 1940. The Southeastern Medical Society gave him a bronze plaque at a community-wide luncheon in his honor.

R. W. STONER, M.D.
1898-1950

R. W. Stoner, M.D., died at his home in Checotah following a long illnes.

Dr. Stoner, who had practiced in Checotah 12 years, was born May 15, 1898. During World War II, he served overseas as a captain. He was made a life member of the Oklahoma State Medical Association in 1949. He was a member of the Checotah Post of the American Legion and took an active interest in the work of the local Methodist church of which he was also a member.

Survivors include the widow of the home, one daughter, his mother, three sisters and one brother.

DO YOU KNOW?

That this issue of the Journal carries the first in a series of abstracts of medical literature in recent publications abstracted by Robert M. Becker, M.D. Dr. Becker is the instructor in the postgraduate course in Internal Medicine. This month's abstracts appear on page 128.

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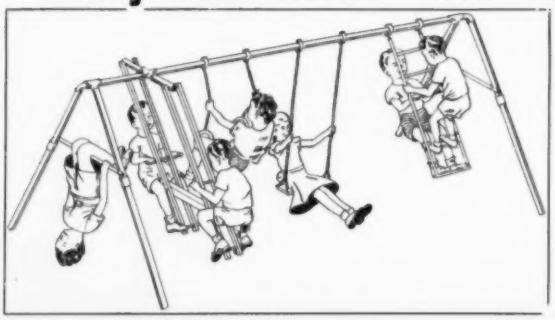

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BOOK REVIEWS

A TEXTBOOK OF SURGERY, edited by Frederick Christopher, B.S., M.D., F.A.C.S., Evanston, Illinois, fifth edition, W. B. Saunders Company. 1949.

With the publication of the fifth edition a fine surgical reference book has been made even finer. All fields of modern surgery are covered in a very excellent fashion by recognized authorities on each subject throughout the United States and Canada.

Many new sections have been added to this edition. These are all written by currently established authorities. The text has been made absolutely modern. However, debatable or incompletely tried methods are not included. It is truly surprising the wealth of material included in this one volume. Etiology, pathology, and diagnosis have been properly dealt with and correct surgical treatment has been carefully described.

Of special importance in this fifth edition are the sections that have been revised by new authors as follows: Chemotherapy of Surgical Infections, by Dr. John S. Lockwood, of Columbia University; Pathology and Repair of Fractures (Murray), by Dr. Paul C. Colonna, of the University of Pennsylvania; Fractures of the Femur (Murray), by Dr. Carl E. Badgley, of the University of Michigan; Operative Treatment of Fractures (Magnuson), by Dr. James K. Stack, of Northwestern University; Injuries and Surgical Infections of the Eyes and Adnexa (Gifford), by Dr. Derrick Vail, of Northwestern University; Tumors of the Stomach (Balfour), by Dr. John M. Waugh, of the Mayo Clinic; Anomalies of the Small Intestine and the Bile Ducts (Ladd), by Dr. Thomas H. Layman, of the Harvard University; Aseptic Surgical Technic (Weeks), by Dr. Frank L. Meleney, of Columbia University; Management of the Surgical Diabetic Patient (Wilder), by Dr. Randall G. Sprague, of the Mayo Clinic.

This surgical text is a scomplete and easy to use as can be found today. It is highly recommended to the practicing surgeon, the resident and intern, and the medical student.—Everett B. Neff, M.D.

NURSING—AN ART AND A SCIENCE. Margaret A. Tracy, R.N., A.B., M.S. and Collaborators. Third Edition, 625 pages, 183 illustrations. St. Louis: C. V. Mosby Company, 1949. Price $4.00.

This practical text book of "Nursing—An Art and a Science" nod appears in its third edition. It has been revised and shows marked improvement.

The length of the book has been reduced from 754 pages to 625 pages by the elimination of the detailed "Procedure" section which appears in previous editions at the end of the textbook and which was a duplication of material presented in the preceding chapters.

The text still maintains its simplicity and appeal to the beginning students. There are 48 new illustrations which in some instances replace; and in others supplement those used in previous editions and which reflect the improvement in method and equipment that has occurred in the past decade.

The developments in medicine and surgery during the past years which have profoundly affected the care of patients and which are reflected in this edition are early ambulation and the increasing use of chemotherapy. More attention, also, has been given to posture and body mechanics which is of great value to the student nurse.

On the whole the book is very good. The newer significant improvements in procedures are included in this revised edition. The text is complete in that it covers the field of the course in a very interesting and attractive presentation.

Some features which are lacking in this textbook and which are found in many nursing art texts are the spiritual care of the patient, which is so essential, and thought provoking questions and suggested activities at the end of chapters which are beneficial and helpful to students.

The reviewer feels that this book is very valuable and an excellent guide for the instructor and students alike.—Sister M. Pancratia, R.N., B.A., Associate Director of Nurses, St. Anthony Hospital, Oklahoma City, Oklahoma.

THE PHYSIOLOGY OF THOUGHT. Harold Bailey, M.D., F.A.C.S. New York. The William-Frederick Press. 1949. $3.75.

What an interesting adventure and how nebulous our knowledge of the physiology of thought. Neuro-psychiatry is a very imperfect science. As a premise for this brief review we quote from the author's preface: "When we began to study thought, it never occurred to us that the subject could become as comprehensive as our investigations have shown it to be. The unfolding of the various relationships existing between thought and other phenomena have proved as surprising as they have been unexpected. It was only after we had repeatedly challenged our own theories that we were compelled to accept many of our deductions and conclusions as accurate explanations of various mental processes . . . For the most part our subject has been one which mainly concerns a study of the nervous system. This study embraces both the normal and the abnormal, and includes both the nervous system in general as well as that more highly specialized branch which concerns mental function."

As may be surmised from these remarks, there is much in the book not purely physiological and the more specific discussions having to do with the physiology of thought are largely speculative. But this should not deter the reader who is interested in thought and who is not? Naturally any discussion of this subject is largely speculative but this fact should encourage continued study and research. The anatomy of the brain is well known but its function as related to thought is in need of unrelenting exploration. The author is to be commended for bringing this stimulating discussion to the attention of the reading public.

To mention only a few of the chapters should be sufficient to arouse reader interest. "The Meaning of the Mind," "Thought and Concentration," "Subconscious Thought," "Dormant Memories," "Dreams," "Perceptions and Apperceptions," "Emotion and Thought."

There are many others equally intriguing.

—Lewis J. Moorman, M.D.

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* Hamblen, E. C.: Some Aspects of Sex Endocrinology in General Practice. North Carolina M. J. 7:533 (Oct.) 1946.

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MEDICAL ABSTRACTS

SELECTED FROM RECENT LITERATURE ON INTERNAL MEDICINE

ETIOLOGY AND MANAGEMENT OF THE HEMORRHAGIC DIATHESES. Doan, C. A., Dept. of Medicine, Ohio State University Med. School, Columbus, Ohio. Annals of Int. Med. 31:967, December, 1949.

Dr. Doan covers a complex clinical field in a lucid and sensible manner. He reviews up to date concepts of coagulation mechanisms. In his diagnostic approach to the bleeding and/or purpuric patient he divides them into the two large groups, those with an adequate number of circulating platelets and those with abnormally low or absent circulating platelets. (This can be simply done by examining the stained peripheral blood smear when facilities for more elaborate platelet counts are not available — R.M.B.) When the latter condition thrombocytopenia exists three circumstances must be considered, namely (1) primary hpyersplenism, (2) secondary hypersplenism, and (3) bone marrow disturbance. In primary hypersplenism the spleen, according to Doan, serves as a trap taking many placelets out of circulation, and with the injection of adrenalin the spleen contracts, forcing platelets into the circulation. (Dameshek and others feel the important mechanism in primary hypersplenic thrombocytopenia is one of depression of platelet formation in the megakaryocytes of the bone marrow — R.M.B.) In primary hypersplenic thrombocytopenia, the spleen is usually not palpable. Treatment is splenectomy. In secondary hypersplenic thrombocytopenia, Doan points out that the hypersplenic effect in removing platelets from the circulation can be secondary to Hodgkin's disease, Gaucher's disease, lymphomas, leukemias and passive congestion of the spleen. Splenectomy is indicated if the hemorrhagic diathesis is of a degree to be endangering the life of the patient. Thrombocytopenias associated with primary bone marrow disturbances are listed as those due to mechanical crowding out of megakaryocytes from the bone marrow by leukemic or metastatic cell prolifieration, by idiopathic bone marrow aplasia or due to depression of all bone marrow elements by poisons such as benzene, sedormid, X-Ray, radium, etc. or by severe nutritional disturbances. In any case he points out that examination of the bone marrow is important to be fully able to recognize its activity, whether replaced by malignant cells or megakaryocytes increased in number (hypersplenism).

As factors to be sought for when the bleeding patient has adequate circulating platelets (non-thrombocytopenic purpura) the author discusses the following:

1. Plasma coagulation defects — his concept of normal stages in coagulation is: Thromboplastinogen (anti?hemophiliac globulin) + platelet enzyme (thromboplastinogenase) thromboplastin; thromboplastin + prothrombin + Ca thrombin; fibrinogen + thrombin fibrin.

2. Hypoprothrombinemia, which may be present in hemorrhagic disease of newborn, obstructive jaundice, hepatic insufficiency, intestinal disease interfering with adequate absorption of Vit. K, inadequate Vit. K intake. Recommended therapy consists of synthetic derivatives of quinone, one of which is menadione, U.S.P., 1 mgm orally daily.

3. Hyperheparinemia (Allen) which may be followed by cytotoxic therapy like X-Ray irradiation, nitrogen mustard, etc. In vitro heparin tolerance tests may be set up. Recommended therapy — Protamine 0.5-2.0 mgm/Kgm body wt. in 50-75 cc N saline IV each 24 hrs. or toluidine blue 1-4 mgm/Kgm body wt. given similarly.

4. Anti-hemophilic globulin deficiency — (hemophilia) a thromboplastinogen deficiency in the plasma of hemophiliacs, present in normal human whole blood or plasma. Replacement therapy by fresh whole blood, fresh plasma, freshly frozen or by ophilized plasma transfusions from normal donors. A Plasma Fraction I of Cohn containing larger amounts of this anti-hemophiliac globulin may be obtained from the Nat'l. Amer. Red Cross.

5. Fibrinogenopenia — occuring as a congenital and familial disease, becoming apparent secondary to trauma; deficient fibrinogen supplied by fresh whole blood or plasma transfusions.

The other type of hemorrhagic diathesis associated with normal platelets discussed by Dr. Doan is that due to capillary defects, discussing the familial hereditary telangiectasias, hereditary pseudohemophilia; secondary capillary defects due to Vit. C deficiency, to mechanical factors like hypertension. Anaphylactic mechanisms are discused in relation to purpura, producing platelet depletion by megakaryocytic damage in the bone marrow or producing direct capillary damage to vascular endothelium. He gives a word of warning with reference to using very small doses of a suspected purpura producing antigen, suggests therapeutic trial with anti-histamines or histamine desensitization. He concludes with a brief discussion of purpura of embolic and meningococcemic origin, and excessive uterine hemorrhage as a manifestation of a generalized hemorrhagic diathesis, suggesting in this situation the use of ergotrate grs. 1/320 every 4-12 hrs. for not more than 8 consecutive doses without a 24 hr. rest period; obstetrical pituitrin or pitocin 1 amp. IM q 4 h as necessary; Ca chloride or gluconate 10 cc 10 per cent sol. IV; testosterone 25 mgm or stilbesterol 5-10 mgm daily; or correction of a hypothyroid state with dessicated thyroid.—Robert M. Becker, M.D.

ROLE OF ANEMIA IN EXP. PROD. OF HEART BLOCK & AURICULAR FIBRILLATION IN THE DOG. Horlick, L., Surtshin, A., American Heart Journal, 38:716 November, 1949.

Anemic dogs were found to be much more prone to develop auriculo-ventricular blocks and auricular fibrillation when given injections of acetylcholine in doses much smaller than doses of acetylcholine required to produce same changes in dogs with normal hemoglobin. Authors feel that anoxic myocardium from anemia renders myocardium more sensitive to acetylcholine. (Ed. — Clinical implications are obvious, that anemia in a patient can not only produce well recognized cardiac damage with congestive failure or coronary insufficiency but also may precipitate A:V conduction defects and auricular fibrillation due to increased sensitivity of myocardium to naturally present acetylcholine.)—Robert M. Becker, M.D.

(Continued on Page 131)

Note: Address of author given whenever possible so reprints may be requested when more detail of the abstracted work is desired.

OKLAHOMA ACADEMY OF GENERAL PRACTICE

The Oklahoma Academy of General Practice is proud to announce the program for the Second Annual Meeting to be held in Muskogee, Oklahoma, March 27th and 28th, 1950. The meeting will be in the Severs Hotel, Muskogee's largest and finest. Each member of the Oklahoma State Medical Association will receive a copy of the program with a form for requesting hotel reservations. The Academy feels that many of you will again take advantage of the opportunity to attend.

PROGRAM

MONDAY, MARCH 27, 1950

9:00- 9:30	Phil Thorek, M.D., Chicago, Surgery "The Acute Abdomen"
9:35-10:05	Forrest P. Baker, M.D., Talihina, Tuberculosis "Recent Developments in the Treatment of Pulmonary Tuberculosis"
10:10-10:40	William C. Mixson, M.D., Kansas City, Mo., Obstetrics & Gynecology "Problems in the Early Diagnosis of Cancer in the Uterine Cervix"
10:45-11:15	Franklin D. Murphy, M.D., Dean, Univ. of Kansas Med. School "The Training of the Complete Physician."
11:20-11:50	N. G. Alcock, M.D., Iowa City, Iowa, Urology "Tumors of the Adult Kidney"
12:15- 1:30	Roundtable Luncheon
1:45- 2:15	Phil Thorek, M.D. "Intestinal Obstruction"
2:20- 2:50	James G. Hughes, M.D., Memphis, Pediatrics "The Management of Convulsive Disorders in Infancy and Childhood"
3:00- 5:00	Business Meeting
7:00- 8:00	Social Hour
8:00	Dinner Dance — E. C. Texter, M.D., President, American Academy of General Practice, Speaker "Close Relationship Between the Patient And the Family Doctor"

TUESDAY, MARCH 28TH

9:00- 9:30	W. K. Ishmael, M.D., Oklahoma City, Rheumatism "Newer Developments in the Field of Rheumatic Diseases."
9:35-10:05	Moorman P. Prosser, M.D., Oklahoma City, Psychiatry "Treatment of the Common Neuroses by the General Practitioner"
10:10-10:40	James G. Hughes, M.D., Memphis "The Treatment of Diarrhea in Infancy"
10:45-11:15	John E. McDonald, M.D., Tulsa, Orthopedics "Treatment of Fractures of the Foot and Ankle"
12:00- 1:30	Rountable Luncheon
1:45- 2:15	William C. Mixson, M.D., Kansas City "The Management of Bleeding in Late Pregnancy."
2:20- 2:50	N. G. Alcock, M.D., Iowa City "Changing Aspect of the Scheme of Socialized Medicine"
2:55- 3:25	Franklin D. Murphy, M.D. "Realism in Medical Education"

POSTGRADUATE ASSEMBLY IN ENDOCRINOLOGY INCLUDING DIABETES

Miami Beach, Florida Roney Plaza Hotel April 3-8, 1950

An intensive one week course sponsored by THE ASSOCIATION FOR THE STUDY OF INTERNAL SECRETIONS and THE AMERICAN DIABETES ASSSOCIATION, consisting of lectures, clinics and demonstrations, of practical interest to the specialist and those in general practice.

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DR. JOSEPH H. BARACH
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University of Pittsburgh

DR. JOSEPH T. BEARDWOOD, JR.
Professor of Metabolic Diseases
Graduate Schoool, University of Pennsylvania

DR. J. S. L. BROWNE
Professor of Medicine
McGill University

DR. ROBERT B. GREENBLATT
Professor of Endocrinology
University of Georgia

DR. SAMUEL F. HAINES
Professor of Medicine
Mayo Foundation
University of Minnesota

DR. E. C. HAMBLEN
Professor of Endocrinology and Gynecology
Duke University

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DR. HANS SELYE
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DR. WILLARD O. THOMPSON
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University of Illinois

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Harvard Medical School

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Fee: $75. Attendance limited to 100. REGISTRATIONS IN ORDER OF CHECKS RECEIVED WILL CLOSE MARCH 3, 1950. Registration fee will be refunded if course is not filled.

Veterans should make formal application to their local agencies on the appropriate form (1905e or 1950) as furnished by the V.A.

Forward application on your letterhead together with check payable to The Association for the Study of Internal Secretions, to Henry H. Turner, M.D., Secretary-Treasurer, 1200 North Walker Street, Oklahoma City 3, Oklahoma, before March 3, 1950. Further information and program will be furnished upon request.

INFECTIOUS MONONUCLEOSIS. (Editorial) Houck, George H., Am. J. Med. 7:699, December, 1949.

In reviewing his experience and the literature on infectious mononucleosis, the author points out the involvement of most all organ systems by the basic pathologic lesion of the disease, namely a perivascular infiltration of normal and abnormal lymphocytes, formed in situ from other cells of the reticulo-endothelial system. It is generally agreed to be an infectious disease, in all probability due to a virus but no definite etiologic agent has yet been isolated. By involving many organ systems the clinical picture may be one of a myocarditis, interstitial nephritis, benign lymphocytic meningitis, encephalitis or Guillain-Barre syndrome. Almost every case of moderate severity has significant hepatic involvement; pulmonary infiltrates may resemble virol or atypical pneumonias. The serologic presence of antibodies (agglutinins) to sheep red cells (Paul Bunnel test) appears sometime during the course of the disease, usually early.

Treatment is primarily supportive especially with hi protein hi CHO diets to protect the liver cell. (Aueromycin has been reported beneficial and may be tried. —Ed.) As the author points out "The disease always impairs vital organs, frequently incapicitates and occasionally kills."—Robert M. Becker, M.D.

AUREOMYCIN IN THE TREATMENT OF TULAREMIA. Ransmeier, J. C., Price, H. J., and Barnes, Z. B., Jr., Emory University School of Medicine, Atlanta, Ga., Am. J. Med., 7:518 October, 1949.

The authors report striking improvement in three cases of tularemia following oral aureomycin therapy, dosages ranging from 2.0-6.0 Gms. daily given in divided doses every six hours, the larger doses used initially. One of the cases was of the pneumonic type, the other two were the ulcero-glandular type, one of the latter requiring surgical drainage. From literature available, aureomycin is more effective than streptomycin in controlling experimental tularemia in mice. It is pointed out, that since the mortality in tularemia without specific treatment is only 7.4 per cent, that caution must be exercised in avoiding overenthusiasm of an apparently curative drug when tried on just a few cases.—Robert M. Becker, M.D.

USE OF LITHIUM SALTS AS A SUBSTITUTE FOR SODIUM CHLORIDE. Talbot, J. H., Dept. of Med., of Buffalo School of Medicine, Buffalo, N.Y., Arch. Int. Med., 85:1, January, 1950.

The author cites his experiences with lithium salts, dating back to 1930, when he used them clinically and experimentally in animals, investigating acid-base balance in patients with metabolic disorders and in patients with gouty arthritis, and more recently as a salt substitute. His rational study points out that symptoms attributable to lithium intoxication were more likely attributable to salt depletion with low serum Na values induced by rigid Na Cl restriction with simultaneous energetic use of mercurial diuretics. Patients with sup posed lithium intoxication, presenting characteristic symptoms and manifestations of the salt depletion syndrome, namely anorexia, nausea, vomiting, peripheral vascular collapse, mental confusion, etc., a picture not unlike that of a crisis of adrenal-cortical insufficiency. Symptoms which could possibly be attributable to lithium intoxication were found in patients taking massive doses of the lithium salts, none being found in association with serum lithium concentrations below 1.0 mEq.

—Robert M. Becker, M.D.

USE OF PARAAMINOBENZOIC ACID IN DERMATOMYOSITIS AND SCLERODERMA. Larafonetis, C. J. D., Curtis, A. C., Gulick, A. E., Dept. of Med., Univ. Hospital, Ann Arbor, Mich., Arch. Int. Med. 85:27, January, 1950.

Authors began using large doses of PABA in diffuse collagen diseases like disseminated lupus erythematosus and dermatomyositis when it was noted that sensitivity to sunlight was encountered in patients receiving sulfonamide compounds, and PABA has been known as an antagonist to sulfa compounds. Present report cites definite, and in some cases, remarkable improvement in four cases of scleroderma, one case of dermatomyositis and one case of mixed scleroderma and dermatomyositis. Some photographs in the paper are indeed convincing of improvement, but spontaneous remissions especially in dermatomyositis are well known. Dosages of Na or K p-aminobenzoic acid ranged from 1.5-3.0 Gms. every 2-3 hrs. for total doses of 24 Gms. in 24 hrs. at first, reducing dosage to 1.0-2.0 Gms. 3 or 4 times a day as maintenance. The PABA was supplied by Merck & Co., and Wyeth Inc.—Robert M. Becker, M.D.

CARDIAC DYSFUNCTION IN HYPERTHYROIDISM. STUDY OF 810 CASES. Griswold, D., Keating, J. H., Dept. of Med., St. Lukes Hosp., New York, N. Y. Am. Heart Jour. 38:813 December, 1949.

810 cases of hyperthyroidism were reviewed; patients with auricular fibrillation or cardiac insufficiency noted on admission were classified as thyrocardiacs, and 12.5 per cent of the 810 fell into this category; the other 87.5 per cent were classed as nonthyrocardiacs. Symptoms had existed an average of 13.1 months in thyrocardiacs, an average of 10.8 months in the nonthyrocardiacs. The age of thyrocardiacs averaged 51 years, of nonthyrocardiacs 41 years. 52 per cent of the thyrocardiacs had associated cardiovascular disease, compared with 13 per cent of the non thyrocardiac controls; 48 per cent of the thyrocardiacs had no demonstrable organic heart disease. There was no correlation between severity of the thyrotoxicosis and presence of auricular fibrillation or cardiac insufficiency; 65 per cent of the thyrocardiacs with congestive failure had auricular fibrillation. The authors note that once a thyrocardiac was compensated following treatment of his hyperthyroidism, that he is no more likely to suffer similar episodes than a nonthyrocardiac.

—Robert M. Becker, M.D.

AUREOMYCIN TREATMENT OF PNEUMOCOCCIA PNEUMONIA. Gocke, T. M., Collins, H. S., Finland, M., Thorndike Memorial Laboratory, Boston, Mass.

This paper presents the results of treatment of 33 consecutive patients with pneumococcic pneumonia with oral and parenteral aureomycin. Excellent results were obtained, on a par with those that would be expected with penicillin. Major reduction in fever occurred during first 12-24 hours in 27 patients, during first two days in 31, symptoms improved as fever dropped. Complete clearing of pulmonary lesion was noted by the end of two weeks in all but three patients. All strains of pneumococci found were sensitive to aureomycin. There were two deaths among the 33 treated; one was in critical condition when aureomycin was started, the other occurring unexpectedly during the time the patient was showing favorable response as far as his pneumonia was concerned. Toxic gastrointestinal effects were noted in six of the 33 patients but were not severe enough to interfere with therapy, seven patients had large and bulky stools, occasional diarrhea.

—Robert M. Becker, M.D.

50 and 3

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